STIC Search Report
EIC 1700

STIC Database Tracking Number: 195113

TO: Dawn Garrett **Location: REM 10C79** **Art Unit : 1774** **July 12, 2006** **Case Serial Number: 10/525194**	**From: Usha Shrestha** **Location: EIC 1700** **REMSEN 4B28** **Phone: 571/272-3519** **usha.shrestha@uspto.gov**

Search Notes

Access DB# 195113

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 8/10/2006
Art Unit: 1774 Phone Number ~~30~~ 2-1523 Serial Number: 10/525,194
Mail Box and Bldg/Room Location: REM 10C79 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: MONOAMINOFLUORENE COMPOUND & DEVICE

Inventors (please provide full names):
See Bib. Data Sheet Attached

Earliest Priority Filing Date: 8/30/02 - JP 2002-252846

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search formula (1) compound & formula (2) compound (see claims 1 and 2).

Thank you.

SCIENTIFIC REFERENCE BR
Sci & Tech Inf. Ctr
JUL 1 hEL
Pat. & T.M. Office

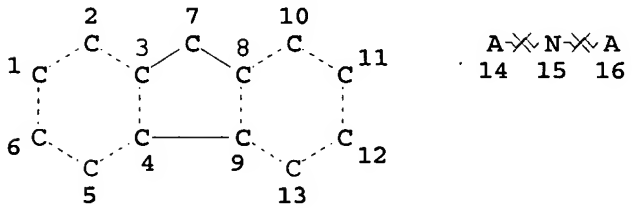
****

STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher: [illegible]	NA Sequence (#)	STN 55.2-3.2
Searcher Phone #:	AA Sequence (#)	Dialog
Searcher Location:	Structure (#) 2	Questel/Orbit
Date Searcher Picked Up: 7/11/06	Bibliographic	Dr.Link
Date Completed: 7/12/06	Litigation	Lexis/Nexis
Searcher Prep & Review Time: 120	Fulltext	Sequence Systems
Clerical Prep Time: 30	Patent Family	WWW/Internet
Online Time: 100	Other	Other (specify)

PTO-1590 (8-01)

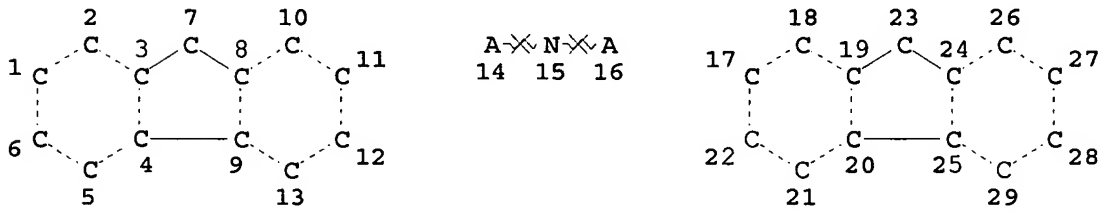
```
=> fil reg
FILE 'REGISTRY' ENTERED AT 10:07:50 ON 12 JUL 2006

=> d his ful

     FILE 'HCAPLUS' ENTERED AT 08:53:16 ON 12 JUL 2006
                  E JP2002-252846/PRN,AP,PN
L1                1 SEA ABB=ON  (JP2002-252846/PRN OR JP2002-252846/AP)
                  SEL RN

     FILE 'REGISTRY' ENTERED AT 08:54:09 ON 12 JUL 2006
L2               35 SEA ABB=ON  (144981-85-1/BI OR 333432-28-3/BI OR
                    361486-60-4/BI OR 400607-20-7/BI OR 441352-90-5/BI OR
                    4612-26-4/BI OR 475461-36-0/BI OR 505078-42-2/BI OR
                    549528-98-5/BI OR 608130-98-9/BI OR 620-93-9/BI OR
                    654067-65-9/BI OR 668994-18-1/BI OR 668994-19-2/BI OR
                    668994-20-5/BI OR 669059-26-1/BI OR 669059-28-3/BI OR
                    669059-30-7/BI OR 669059-32-9/BI OR 669059-33-0/BI OR
                    669059-35-2/BI OR 669059-37-4/BI OR 669059-39-6/BI OR
                    669059-41-0/BI OR 669059-43-2/BI OR 669059-45-4/BI OR
                    669059-47-6/BI OR 669059-49-8/BI OR 669059-51-2/BI OR
                    669059-53-4/BI OR 669059-55-6/BI OR 669059-57-8/BI OR
                    669059-71-6/BI OR 669059-73-8/BI OR 7553-56-2/BI)
L3                  STR
L4               50 SEA SSS SAM L3
L5                  STR L3
L6               50 SEA SSS SAM L5
L7                  SCR 2043 OR 1918
L8               50 SEA SSS SAM L5 NOT L7
L9            35548 SEA SSS FUL L5 NOT L7
L10              18 SEA ABB=ON  L9 AND L2
                    SAV L9 GAR194/A

     FILE 'HCAPLUS' ENTERED AT 09:22:55 ON 12 JUL 2006
L11              23 SEA ABB=ON  L10
L12           16634 SEA ABB=ON  L9
L13            7055 SEA ABB=ON  L12(L)PREP/RL
L14             117 SEA ABB=ON  L13 AND DYE?/SC,SX
L15              93 SEA ABB=ON  L14 AND (1840-2002)/PRY,AY,PY
L16              22 SEA ABB=ON  L11 NOT L1
L17              11 SEA ABB=ON  L16 AND (1840-2002)/PRY,AY,PY
L18                 QUE ABB=ON  LUM!N? OR ELECTROLUM!N OR ORGANOLUM!N? OR
                    LIGHTEMIT? OR (ELECTRO OR ORGANO OR ORG#)(2A)LUM!N? OR
                    LIGHT?(2A)(EMIT? OR EMISSION?) OR EL OR E(W)L OR
                    L(W)E(W)D OR OLED OR LED/IT
L19               9 SEA ABB=ON  L17 AND L18
L20               6 SEA ABB=ON  L15 AND L18
L21              15 SEA ABB=ON  L19 OR L20
L22             213 SEA ABB=ON  L13 AND L18
L23              99 SEA ABB=ON  L22 AND (1840-2002)/PRY,AY,PY
L24              58 SEA ABB=ON  L23 AND DEV/RL
L25               3 SEA ABB=ON  L24 AND DYE?
L26              15 SEA ABB=ON  L21 OR L25
L27             183 SEA ABB=ON  L12(L)L18
L28              12 SEA ABB=ON  L27 AND DYE?
L29               9 SEA ABB=ON  L28 AND (1840-2002)/PRY,AY,PY
L30              19 SEA ABB=ON  L26 OR L29

     FILE 'REGISTRY' ENTERED AT 09:49:46 ON 12 JUL 2006
L31                 STR L5
```

```
L32          50 SEA SUB=L9 SSS SAM L31
L33        1877 SEA SUB=L9 SSS FUL L31

     FILE 'HCAPLUS' ENTERED AT 09:52:24 ON 12 JUL 2006
L34         878 SEA ABB=ON  L33
L35          67 SEA ABB=ON  L34(L)L18
L36          34 SEA ABB=ON  L35 AND (1840-2002)/PRY,AY,PY
L37          44 SEA ABB=ON  L36 OR L30



=> d que l37
L1            1 SEA FILE=HCAPLUS ABB=ON  (JP2002-252846/PRN OR
                JP2002-252846/AP)
L2           35 SEA FILE=REGISTRY ABB=ON  (144981-85-1/BI OR 333432-28-
                3/BI OR 361486-60-4/BI OR 400607-20-7/BI OR 441352-90-5
                /BI OR 4612-26-4/BI OR 475461-36-0/BI OR 505078-42-2/BI
                 OR 549528-98-5/BI OR 608130-98-9/BI OR 620-93-9/BI OR
                654067-65-9/BI OR 668994-18-1/BI OR 668994-19-2/BI OR
                668994-20-5/BI OR 669059-26-1/BI OR 669059-28-3/BI OR
                669059-30-7/BI OR 669059-32-9/BI OR 669059-33-0/BI OR
                669059-35-2/BI OR 669059-37-4/BI OR 669059-39-6/BI OR
                669059-41-0/BI OR 669059-43-2/BI OR 669059-45-4/BI OR
                669059-47-6/BI OR 669059-49-8/BI OR 669059-51-2/BI OR
                669059-53-4/BI OR 669059-55-6/BI OR 669059-57-8/BI OR
                669059-71-6/BI OR 669059-73-8/BI OR 7553-56-2/BI)
L5              STR
```




```
NODE ATTRIBUTES:
NSPEC   IS RC     AT  14
NSPEC   IS RC     AT  15
NSPEC   IS RC     AT  16
CONNECT IS E3  RC AT  15
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS  16

STEREO ATTRIBUTES: NONE
L7              SCR 2043 OR 1918
L9         35548 SEA FILE=REGISTRY SSS FUL L5 NOT L7
L10           18 SEA FILE=REGISTRY ABB=ON  L9 AND L2
L11           23 SEA FILE=HCAPLUS ABB=ON  L10
L12        16634 SEA FILE=HCAPLUS ABB=ON  L9
L13         7055 SEA FILE=HCAPLUS ABB=ON  L12(L)PREP/RL
L14          117 SEA FILE=HCAPLUS ABB=ON  L13 AND DYE?/SC,SX
L15           93 SEA FILE=HCAPLUS ABB=ON  L14 AND (1840-2002)/PRY,AY,PY

L16           22 SEA FILE=HCAPLUS ABB=ON  L11 NOT L1
```

```
L17          11 SEA FILE=HCAPLUS ABB=ON  L16 AND (1840-2002)/PRY,AY,PY

L18             QUE  ABB=ON  LUM!N? OR ELECTROLUM!N OR ORGANOLUM!N? OR
                LIGHTEMIT? OR (ELECTRO OR ORGANO OR ORG#)(2A)LUM!N? OR
                LIGHT?(2A)(EMIT? OR EMISSION?) OR EL OR E(W)L OR L(W)E(
                W)D OR OLED OR LED/IT
L19           9 SEA FILE=HCAPLUS ABB=ON  L17 AND L18
L20           6 SEA FILE=HCAPLUS ABB=ON  L15 AND L18
L21          15 SEA FILE=HCAPLUS ABB=ON  L19 OR L20
L22         213 SEA FILE=HCAPLUS ABB=ON  L13 AND L18
L23          99 SEA FILE=HCAPLUS ABB=ON  L22 AND (1840-2002)/PRY,AY,PY

L24          58 SEA FILE=HCAPLUS ABB=ON  L23 AND DEV/RL
L25           3 SEA FILE=HCAPLUS ABB=ON  L24 AND DYE?
L26          15 SEA FILE=HCAPLUS ABB=ON  L21 OR L25
L27         183 SEA FILE=HCAPLUS ABB=ON  L12(L)L18
L28          12 SEA FILE=HCAPLUS ABB=ON  L27 AND DYE?
L29           9 SEA FILE=HCAPLUS ABB=ON  L28 AND (1840-2002)/PRY,AY,PY

L30          19 SEA FILE=HCAPLUS ABB=ON  L26 OR L29
L31             STR
```




```
NODE ATTRIBUTES:
NSPEC   IS RC     AT  14
NSPEC   IS RC     AT  15
NSPEC   IS RC     AT  16
CONNECT IS E3  RC AT  15
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS  29

STEREO ATTRIBUTES: NONE
L33       1877 SEA FILE=REGISTRY SUB=L9 SSS FUL L31
L34        878 SEA FILE=HCAPLUS ABB=ON  L33
L35         67 SEA FILE=HCAPLUS ABB=ON  L34(L)L18
L36         34 SEA FILE=HCAPLUS ABB=ON  L35 AND (1840-2002)/PRY,AY,PY

L37         44 SEA FILE=HCAPLUS ABB=ON  L36 OR L30


=> fil hcap
FILE 'HCAPLUS' ENTERED AT 10:08:12 ON 12 JUL 2006

=> d l37 1-44 ibib abs hitstr hitind

L37  ANSWER 1 OF 44  HCAPLUS  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:         2005:78037  HCAPLUS
DOCUMENT NUMBER:          142:186235
TITLE:                    Self-assembly of organic-inorganic
```

nanocomposite thin films for use in hybrid organic light-emitting devices (HLEDs)
INVENTOR(S): Sellinger, Alan
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, USA
SOURCE: U.S. Pat. Appl. Publ., 15 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

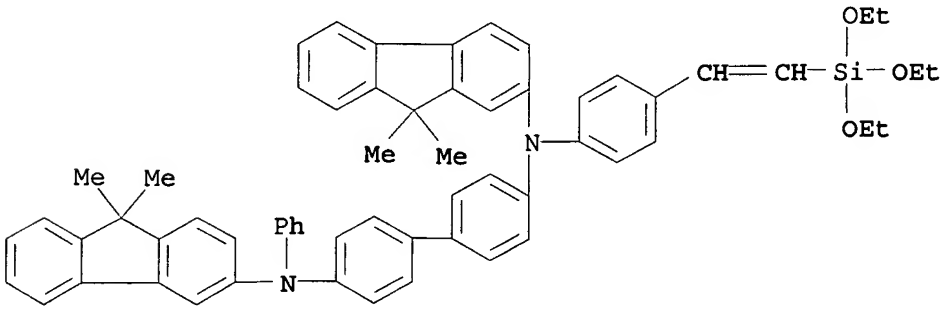
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005019602	A1	20050127	US 2000-749006	2000 1227 <--
US 6861091	B2	20050301		

PRIORITY APPLN. INFO.: US 2000-749006 2000 1227 <--

AB Methods for preparing a luminescent organic-inorg. nanocomposite thin film are described which entail mixing a silica sol with a silica coupling agent containing a reactive functional group, a surfactant having a concentration below the critical micelle concentration, an organic solvent, and an organic material containing a functional moiety substituent selected from hole transport, electron transport, emissive material moieties and precursors thereof; evaporating the organic solvent to induce micelle formation and form a liquid mesophase material; and initiating and propagating a reaction between the organic material and the silica coupling agent to form a nanostructure self-assembly. Luminescent ordered nanocomposite structures prepared by the process, and organic-inorg. HLEDs fabricated from the luminescent organic-inorg. nanocomposite structures are also described.

IT **832757-02-5**
(self-assembly of organic-inorg. nanocomposite thin films for use in hybrid **light-emitting** devices and the films and the devices)

RN 832757-02-5 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diamine, N-(9,9-dimethyl-9H-fluoren-2-yl)-N'-(9,9-dimethyl-9H-fluoren-3-yl)-N'-phenyl-N-[4-[2-(triethoxysilyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)



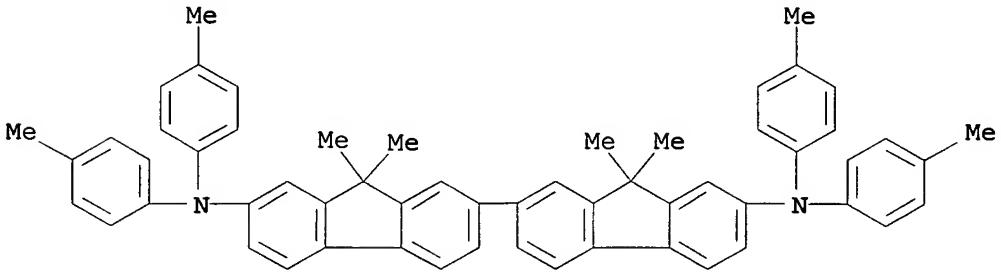
IC ICM B05D005-06
ICS B32B009-00
INCL 428690000; 427064000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
IT 351529-88-9 **832757-02-5** 832757-05-8D, anisole-terminaed 832757-06-9D, anisole-terminaed 832757-09-2D, anisole-terminaed
(self-assembly of organic-inorg. nanocomposite thin films for use in hybrid **light-emitting** devices and the films and the devices)
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 2 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:473162 HCAPLUS
DOCUMENT NUMBER: 141:30890
TITLE: Organic light-emitting device using paracyclophane
INVENTOR(S): Chen, Jian Ping; Ueno, Kazunori; Suzuki, Koichi
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: U.S. Pat. Appl. Publ., 20 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004110027	A1	20040610	US 2002-309116 <--	20021204
US 6869698	B2	20050322		
JP 2004186158	A2	20040702	JP 2003-403751 <--	20031202
CN 1504534	A	20040616	CN 2003-10119723 <--	20031203
PRIORITY APPLN. INFO.:			US 2002-309116 A <--	20021204

OTHER SOURCE(S): MARPAT 141:30890
AB The invention relates to an organic light-emitting device (OLED) in which a paracyclophane or a paracyclophane derivative is used as the emissive layer and/or ≥1 of the charge transport layers, or as a host material for ≥1 of these layers.
IT **228871-85-0P**
(blue **emitter**; organic **light-emitting** device using paracyclophane)

RN 228871-85-0 HCAPLUS
CN [2,2'-Bi-9H-fluorene]-7,7'-diamine, 9,9,9',9'-tetramethyl-N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-12
INCL 428690000; 428917000; 313504000; 313506000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
IT **228871-85-0P**
(blue **emitter**; organic **light-emitting** device using paracyclophane)
REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 3 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:409927 HCAPLUS
DOCUMENT NUMBER: 140:431125
TITLE: Bisimide derivatives bearing bisarylamino groups, their preparation, and hole-transporting materials, green-emitting phosphors, and organic electroluminescent device
INVENTOR(S): Fukuoka, Naohiko; Tagami, Sanae; Fujiwara, Toru; Shionoya, Hidehiko
PATENT ASSIGNEE(S): Chemipro Kasei Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

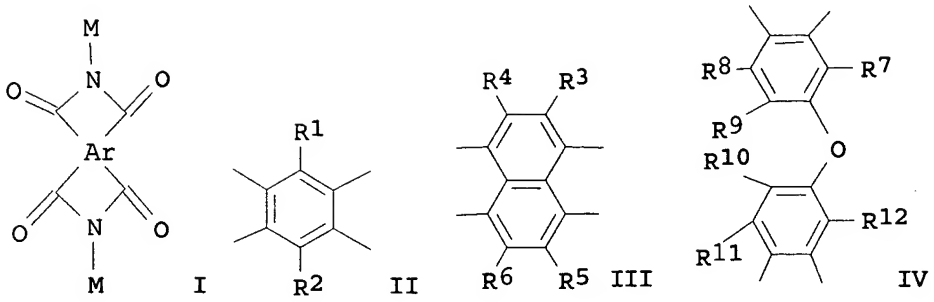
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004143044	A2	20040520	JP 2002-306249	2002 1021

<--

PRIORITY APPLN. INFO.: JP 2002-306249 2002 1021

<--

OTHER SOURCE(S): MARPAT 140:431125
GI



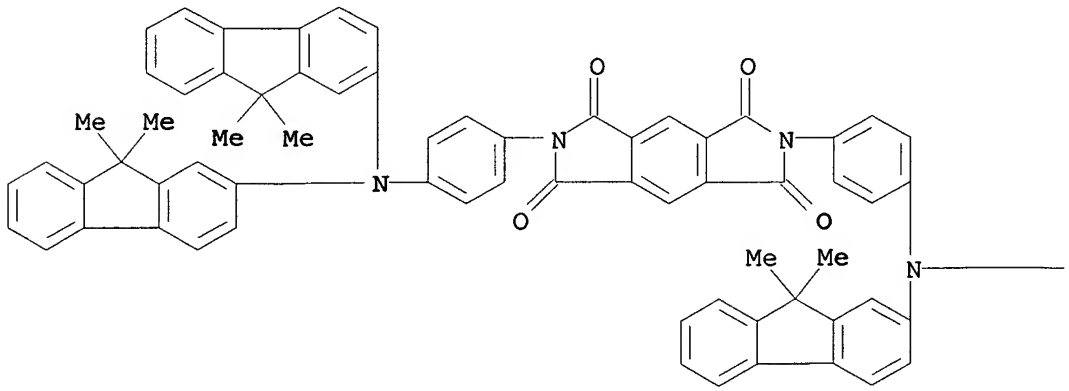
AB The bisimide derivs. represented by the general formula I [Ar = II, III, IV; Q = single bond, ether, carbonyl, sulfone, thioether, alkylidene, 4,4'-alkylidenediphenoxy, 4,4'-alkylidenediphenoxycarbonyl; R1-R12 = H, linear or cyclic alkyl, linear or cyclic alkoxy, (un)substituted aryl, halo; M = Ar1NAr2Ar3; Ar1 = (un)substituted arylene; Ar2, Ar3 = (un)substituted aryl; Ar2 and Ar3 may form N-containing heterocyclic ring together with the bonding N] are prepared by reacting bisacid anhydrides I with amines MNH2 (Ar, M = same as above). The bisimide derivs. are amorphous, heat-resistant, and capable of film formation by solvent coating.

IT **691883-38-2P 691883-40-6P 691883-42-8P**
691883-43-9P 691883-44-0P 691883-45-1P
691883-46-2P 691883-47-3P 691883-48-4P
691883-49-5P 691883-50-8P 691883-51-9P
(preparation of bisimide derivs. bearing bisarylamino groups for hole-transporting materials, green-emitting phosphor, and organic **EL** device)

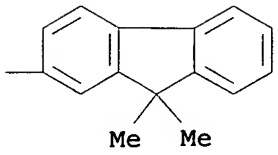
RN 691883-38-2 HCAPLUS

CN Benzo[1,2-c:4,5-c']dipyrrole-1,3,5,7(2H,6H)-tetrone, 2,6-bis[4-[bis(9,9-dimethyl-9H-fluoren-2-yl)amino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

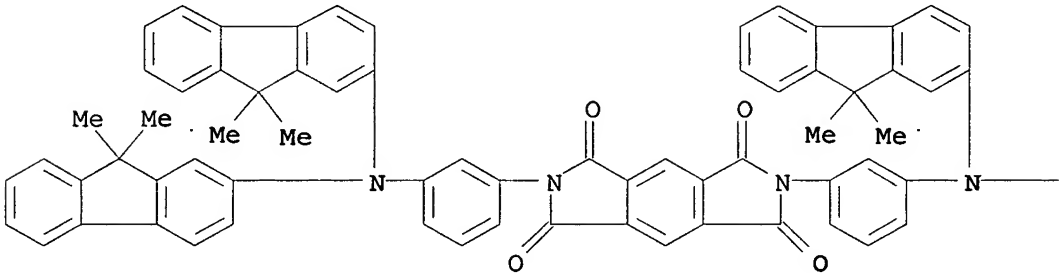


PAGE 1-B

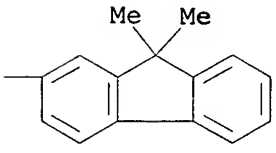


RN 691883-40-6 HCAPLUS
CN Benzo[1,2-c:4,5-c']dipyrrole-1,3,5,7(2H,6H)-tetrone, 2,6-bis[3-[bis(9,9-dimethyl-9H-fluoren-2-yl)amino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

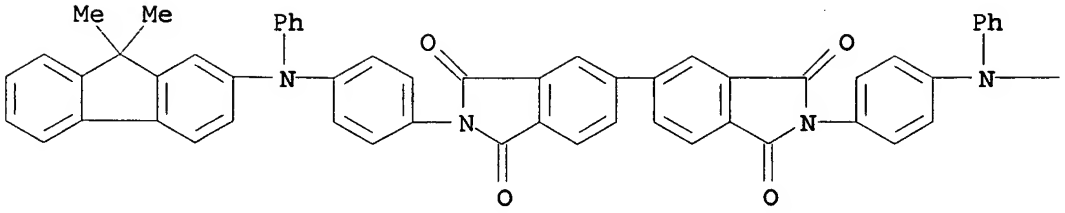


PAGE 1-B

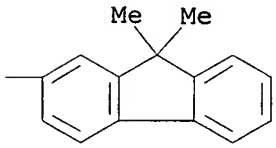


RN 691883-42-8 HCAPLUS
CN [5,5'-Bi-1H-isoindole]-1,1',3,3'(2H,2'H)-tetrone, 2,2'-bis[4-[(9,9-dimethyl-9H-fluoren-2-yl)phenylamino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

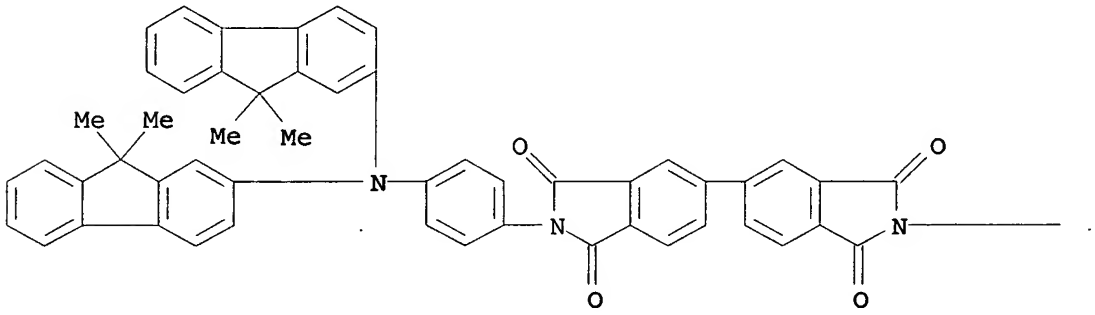


PAGE 1-B

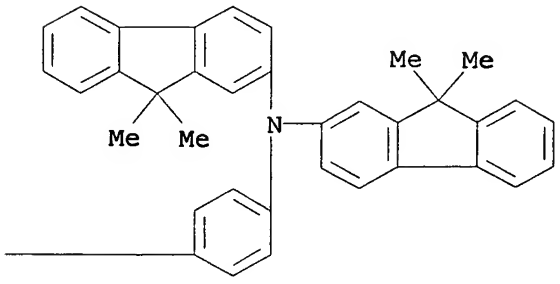


RN 691883-43-9 HCAPLUS
CN [5,5'-Bi-1H-isoindole]-1,1',3,3'(2H,2'H)-tetrone, 2,2'-bis[4-[bis(9,9-dimethyl-9H-fluoren-2-yl)amino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



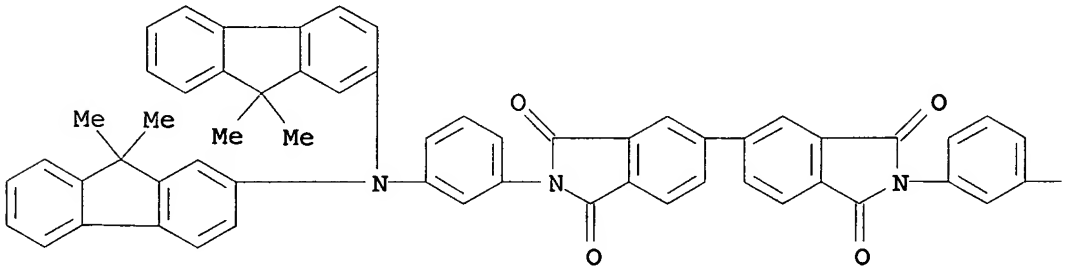
PAGE 1-B



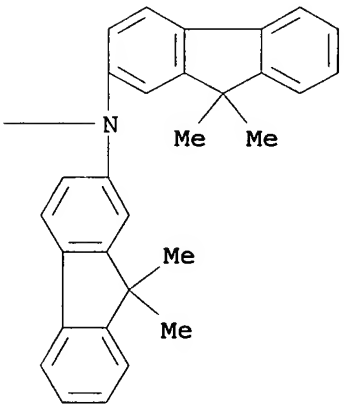
RN 691883-44-0 HCAPLUS

CN [5,5'-Bi-1H-isoindole]-1,1',3,3'(2H,2'H)-tetrone, 2,2'-bis[3-[bis(9,9-dimethyl-9H-fluoren-2-yl)amino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

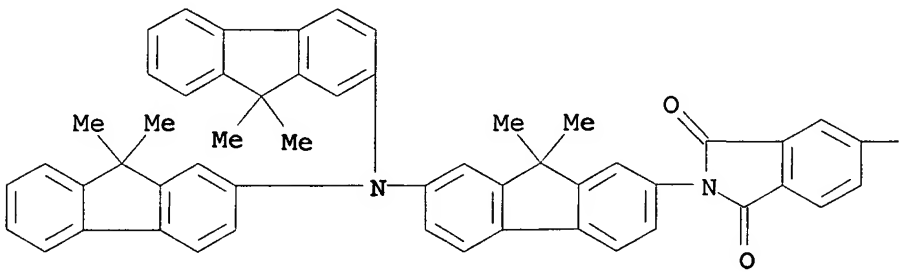


PAGE 1-B

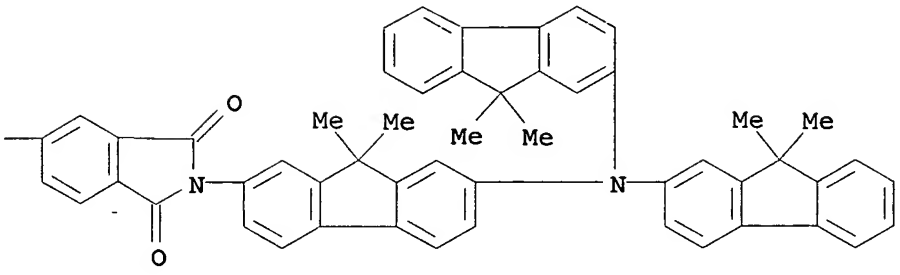


RN 691883-45-1 HCAPLUS
CN [5,5'-Bi-1H-isoindole]-1,1',3,3'(2H,2'H)-tetrone, 2,2'-bis[7-[bis(9,9-dimethyl-9H-fluoren-2-yl)amino]-9,9-dimethyl-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)

PAGE 1-A

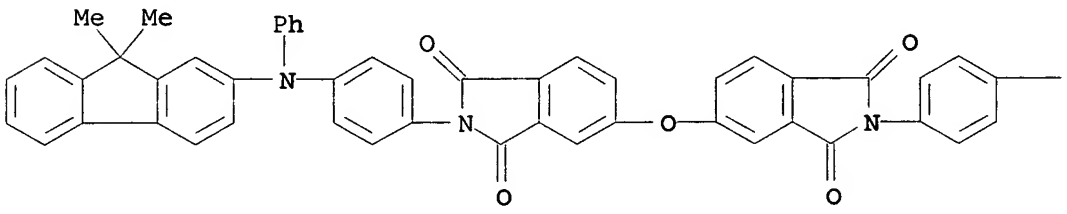


PAGE 1-B

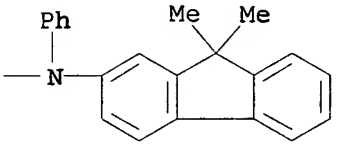


RN 691883-46-2 HCAPLUS
CN 1H-Isoindole-1,3(2H)-dione, 5,5'-oxybis[2-[4-[(9,9-dimethyl-9H-fluoren-2-yl)phenylamino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

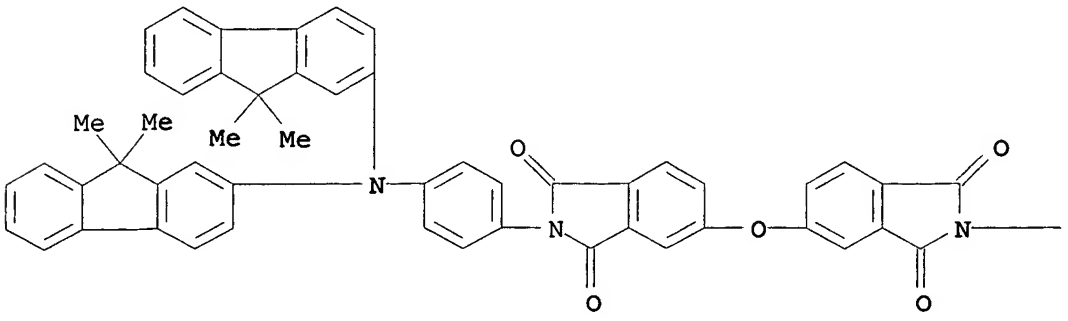


PAGE 1-B

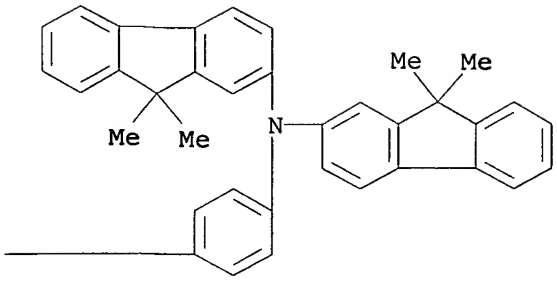


RN 691883-47-3 HCAPLUS
CN 1H-Isoindole-1,3(2H)-dione, 5,5'-oxybis[2-[4-[bis(9,9-dimethyl-9H-fluoren-2-yl)amino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

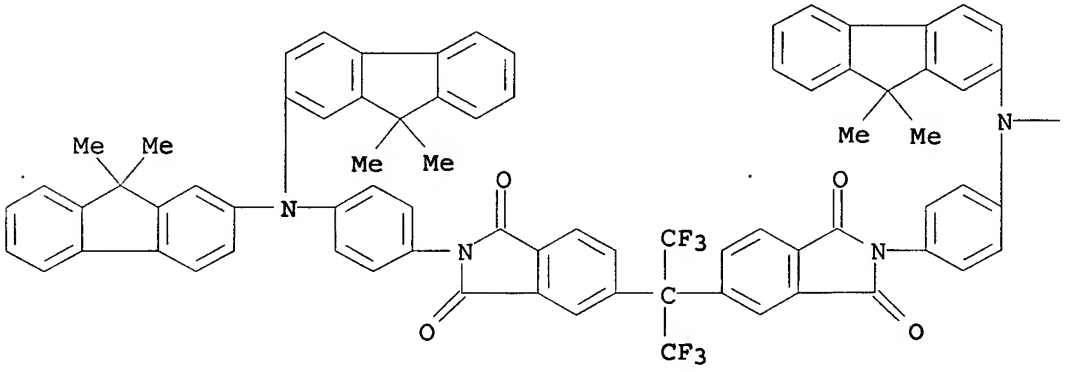


PAGE 1-B

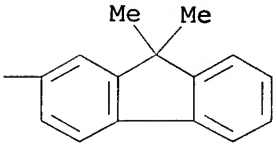


RN 691883-48-4 HCAPLUS
CN 1H-Isoindole-1,3(2H)-dione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-[4-[bis(9,9-dimethyl-9H-fluoren-2-yl)amino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

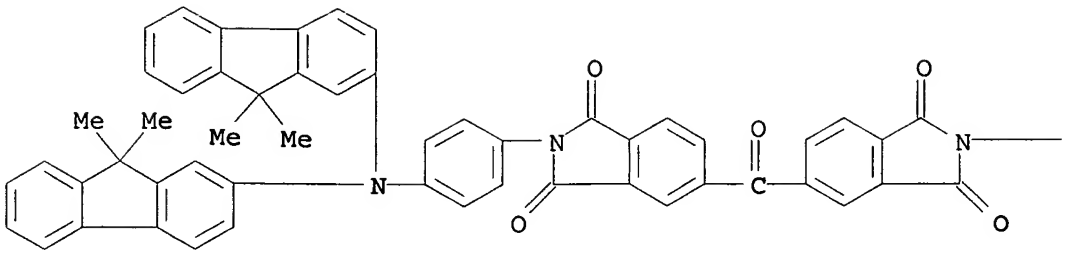


PAGE 1-B

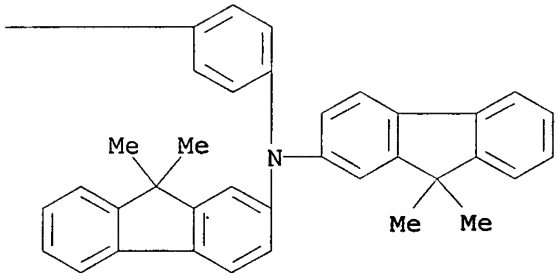


RN 691883-49-5 HCAPLUS
CN 1H-Isoindole-1,3(2H)-dione, 5,5'-carbonylbis[2-[4-[bis(9,9-dimethyl-9H-fluoren-2-yl)amino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

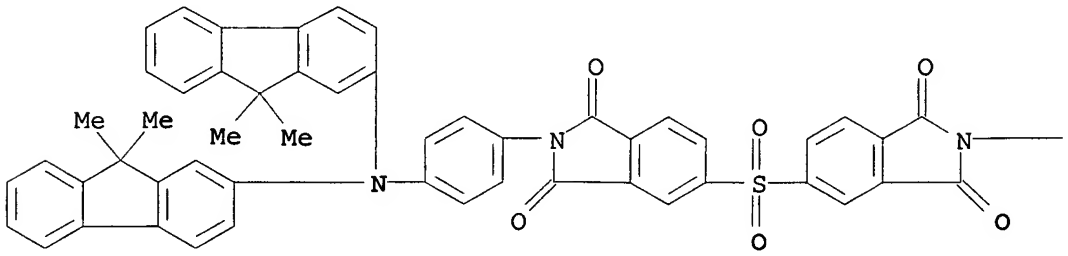


PAGE 1-B

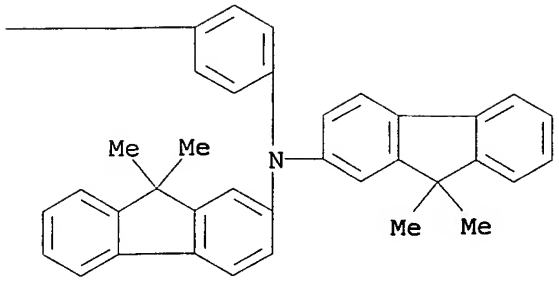


RN 691883-50-8 HCAPLUS
CN 1H-Isoindole-1,3(2H)-dione, 5,5'-sulfonylbis[2-[4-[bis(9,9-dimethyl-9H-fluoren-2-yl)amino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

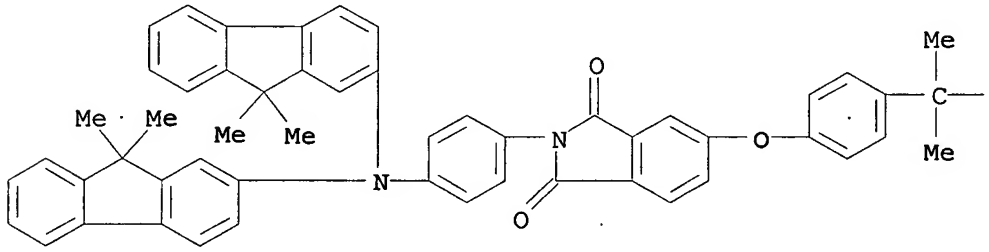


PAGE 1-B

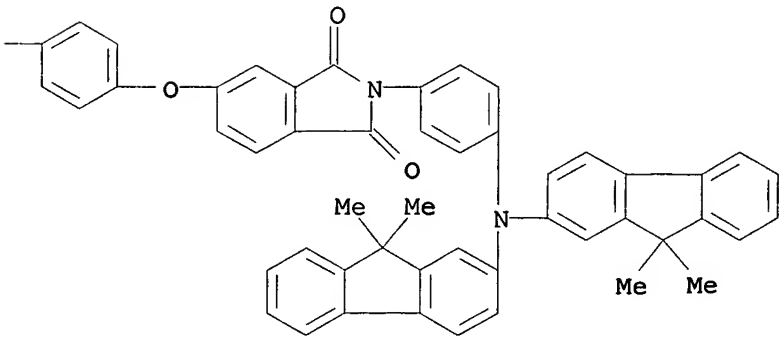


RN 691883-51-9 HCAPLUS
CN 1H-Isoindole-1,3(2H)-dione, 5,5'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis[2-[4-[bis(9,9-dimethyl-9H-fluoren-2-yl)amino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

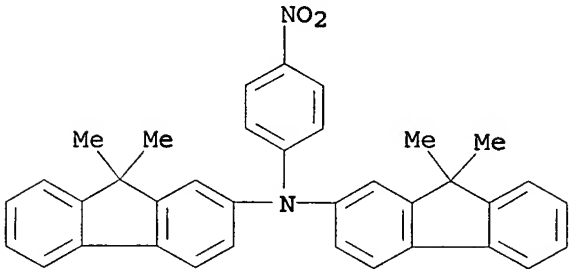


IT **691883-27-9P**
(preparation of bisimide derivs. bearing bisarylamino groups for hole-transporting materials, green-emitting phosphor, and organic

EL device)

RN 691883-27-9 HCAPLUS

CN 9H-Fluoren-2-amine, N-(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl-N-(4-nitrophenyl)- (9CI) (CA INDEX NAME)



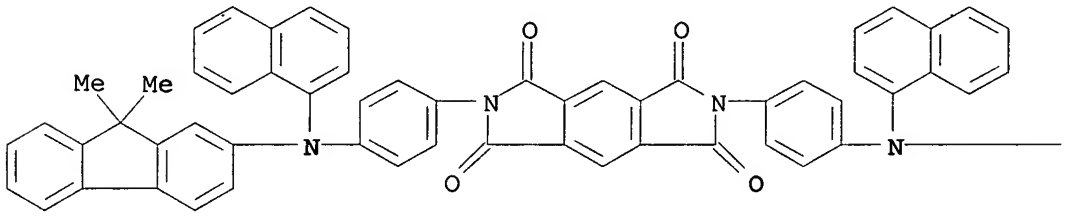
IT **691883-28-0**

(preparation of bisimide derivs. bearing bisarylamino groups for hole-transporting materials, green-emitting phosphor, and organic **EL** device)

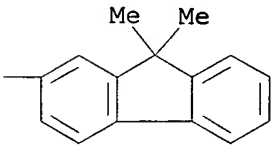
RN 691883-28-0 HCAPLUS

CN Benzo[1,2-c:4,5-c']dipyrrole-1,3,5,7(2H,6H)-tetrone, 2,6-bis[4-[(9,9-dimethyl-9H-fluoren-2-yl)-1-naphthalenylamino]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C07D209-48

ICS C07D487-04; C09K011-06; H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 27

IT **691883-38-2P 691883-40-6P 691883-41-7P**
691883-42-8P 691883-43-9P 691883-44-0P
691883-45-1P 691883-46-2P 691883-47-3P
691883-48-4P 691883-49-5P 691883-50-8P

691883-51-9P
(preparation of bisimide derivs. bearing bisarylamino groups for hole-transporting materials, green-emitting phosphor, and organic **EL** device)

IT 233591-43-0P 259169-65-8P **691883-27-9P** 691883-29-1P
691883-30-4P 691883-32-6P 691883-35-9P
(preparation of bisimide derivs. bearing bisarylamino groups for hole-transporting materials, green-emitting phosphor, and organic **EL** device)

IT 89-32-7, Pyromellitic dianhydride 585-79-5, 3-Bromonitrobenzene 586-78-7, 4-Bromonitrobenzene 1107-00-2, 4,4'-(Hexafluoroisopropylidene)diphthalic anhydride 1823-59-2 2420-87-3, 4,4'-Biphthalic anhydride 2421-28-5, 3,3',4,4'-Benzophenonetetracarboxylic acid dianhydride 2540-99-0, 4,4'-Sulfonyldiphthalic anhydride 28320-33-4 38103-06-9 500717-23-7 672289-02-0 **691883-28-0**
(preparation of bisimide derivs. bearing bisarylamino groups for hole-transporting materials, green-emitting phosphor, and organic **EL** device)

L37 ANSWER 4 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:334021 HCAPLUS
DOCUMENT NUMBER: 140:365379
TITLE: Multicolor **light-emitting** device
INVENTOR(S): Miura, Seishi; Mizutani, Hidemasa; Kondo, Shigeki; Fushimi, Masahiro; Moriyama, Takashi
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004034750	A1	20040422	WO 2003-JP12771	2003 1006
			<--	
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004134101	A2	20040430	JP 2002-294676	2002 1008
			<--	
AU 2003267824	A1	20040504	AU 2003-267824	2003

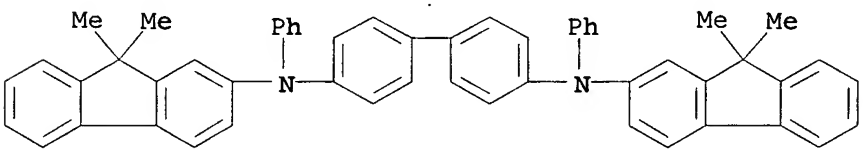
				1006
			<--	
CN 1717959	A	20060104	CN 2003-80101052	
				2003
				1006
			<--	
US 2006033425	A1	20060216	US 2005-529281	
				2005
				0325
			<--	
PRIORITY APPLN. INFO.:			JP 2002-294676	A
				2002
				1008
			<--	
			WO 2003-JP12771	W
				2003
				1006

AB A multicolor **light-emitting** device is described comprising a plurality of organic electroluminescence devices each having an organic compound layer including a **light-emitting** layer between a first electrode and a second electrode, the plurality of organic electroluminescence devices having different emission spectra of two or more colors, wherein **light-emitting** regions in the **light-emitting** layer of the organic electroluminescence devices having the different emission spectra are located in different positions in a layer thickness direction of the **light-emitting** layer corresponding to the different emission spectra.

IT **361486-60-4**
(hole transporting layer; multicolor **light-emitting** device having plurality of organic electroluminescence devices having different emission spectra)

RN 361486-60-4 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(9,9-dimethyl-9H-fluoren-2-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74, 76

ST multicolor LED org; **light emitting** device multicolor org

IT Electroluminescent devices
(multicolor **light-emitting** device having plurality of organic electroluminescence devices having different emission spectra)

IT 50926-11-9, Indium tin oxide
(cathode; multicolor **light-emitting** device having plurality of organic electroluminescence devices having different emission spectra)

IT 7429-90-5, Aluminum, uses
(cathode; multicolor **light-emitting** device having plurality of organic electroluminescence devices having different emission spectra)
IT 12798-95-7
(electron-injecting layer; multicolor **light-emitting** device having plurality of organic electroluminescence devices having different emission spectra)
IT 1662-01-7, Bathophenanthroline
(electron-transporting layer; multicolor **light-emitting** device having plurality of organic electroluminescence devices having different emission spectra)
IT **361486-60-4**
(hole transporting layer; multicolor **light-emitting** device having plurality of organic electroluminescence devices having different emission spectra)
IT 2085-33-8, AlQ3
(**light emitting** layer; multicolor **light-emitting** device having plurality of organic electroluminescence devices having different emission spectra)
IT 94928-86-6 435293-93-9
(**light emitting** layer; multicolor **light-emitting** device having plurality of organic electroluminescence devices having different emission spectra)
IT 146162-54-1, BAlq
(**light-emitting** layer; multicolor **light-emitting** device having plurality of organic electroluminescence devices having different emission spectra)
IT 198-55-0, Perylene 38215-36-0, Coumarin 6
(**light-emitting** layer; multicolor **light-emitting** device having plurality of organic electroluminescence devices having different emission spectra)
IT 7440-47-3, Chromium, uses 58328-31-7, CBP
(multicolor **light-emitting** device having plurality of organic electroluminescence devices having different emission spectra)
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 5 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:267333 HCAPLUS
DOCUMENT NUMBER: 140:311707
TITLE: Phenanthroline compound and organic light emitting device using same
INVENTOR(S): Okajima, Maki; Kawai, Tatsundo; Takiguchi, Takao; Suzuki, Koichi; Senoo, Akihiro; Hasegawa, Toshinori; Okinaka, Keiji
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 69 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004026870	A1	20040401	WO 2003-JP11485	2003 0909
			<--	
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004107263	A2	20040408	JP 2002-272408	2002 0919
			<--	
AU 2003260955	A1	20040408	AU 2003-260955	2003 0909
			<--	
US 2006097227	A1	20060511	US 2005-527192	2005 0310
			<--	
PRIORITY APPLN. INFO.:			JP 2002-272408 A	2002 0919
			<--	
			WO 2003-JP11485 W	2003 0909

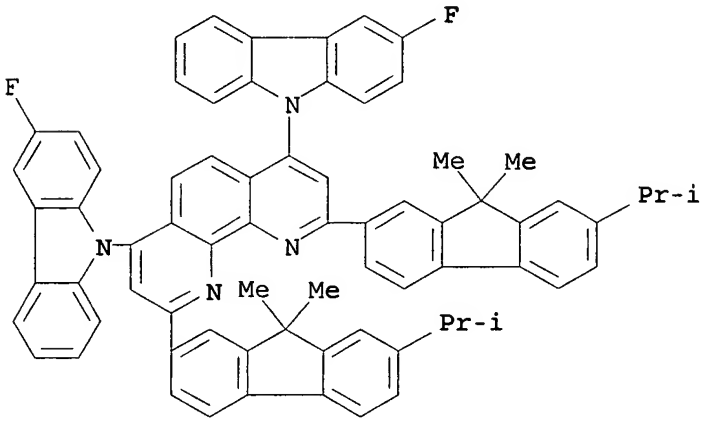
OTHER SOURCE(S): MARPAT 140:311707
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Phenanthroline derivs. are described by the general formulas I, II, and III (R1-16 = independently selected H, (un)substituted alkyl, (un)substituted aralkyl, (un)substituted aryl, (un)substituted heterocyclic, and halo atom; Ar1-8 = independently selected (un)substituted fluorenyl, (un)substituted fluoranthenyl, (un)substituted perylenyl, and (un)substituted carbazolyl). Organic light-emitting devices using the phenanthroline derivs. (e.g., as an electron-transporting layer or a light-emitting layer) are also described.

IT **676542-69-1**
(phenanthroline derivs. and organic **light-emitting** devices using them)

RN 676542-69-1 HCAPLUS
CN 1,10-Phenanthroline, 2,9-bis[9,9-dimethyl-7-(1-methylethyl)-9H-fluoren-2-yl]-4,7-bis(3-fluoro-9H-carbazol-9-yl)- (9CI) (CA INDEX NAME)



IC ICM C07D471-04
ICS C09K011-06; H05B033-14; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 27, 76
IT 676542-63-5 676542-64-6 676542-65-7 676542-66-8
676542-67-9 676542-68-0 **676542-69-1** 676542-70-4
676542-71-5 676542-72-6 676542-73-7 676542-74-8
676542-75-9 676542-76-0 676542-77-1 676542-78-2
676542-79-3 676542-80-6 676542-81-7 676542-82-8
676542-83-9 676542-87-3 676542-88-4
(phenanthroline derivs. and organic **light-emitting** devices using them)
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 6 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:203906 HCAPLUS
DOCUMENT NUMBER: 140:261172
TITLE: Organic light-emitting devices
INVENTOR(S): Saito, Akihito; Hiraoka, Mizuho; Suzuki, Koichi; Senoo, Akihiro; Tanabe, Hiroshi; Yamada, Naoki; Negishi, Chika
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 84 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004020548	A1	20040311	WO 2003-JP10782	2003

0826

<--

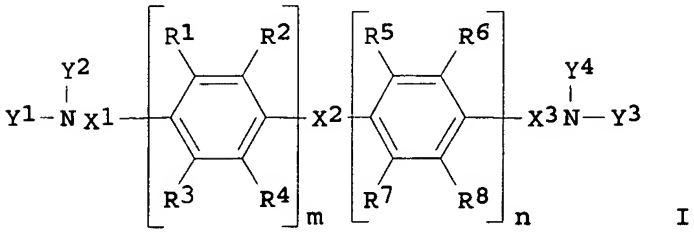
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 2004087363	A2	20040318	JP 2002-248354	2002 0828
			<--	
AU 2003256084	A1	20040319	AU 2003-256084	2003 0826
			<--	
US 2006068221	A1	20060330	US 2005-525198	2005 0222
			<--	
PRIORITY APPLN. INFO.:			JP 2002-248354 A	2002 0828
			<--	
			WO 2003-JP10782 W	2003 0826

OTHER SOURCE(S): MARPAT 140:261172

GI



I

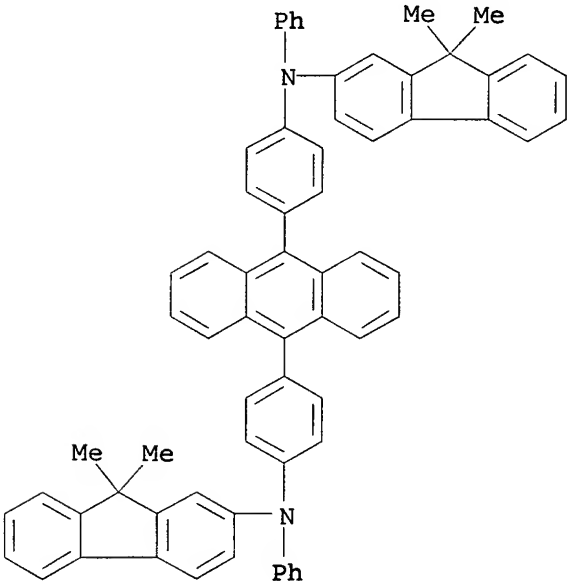
AB Organic light-emitting devices comprising at least a pair of electrodes consisting of an anode and a cathode and ≥1 organic compound-containing layers sandwiched between the electrodes are described in which ≥1 organic compound-containing layer contains ≥1 compound selected from the group consisting of the compds. represented by the general formula I (Y1 and Y2, and Y3 and Y4 may bond to form rings; X1 and Y1 and/or Y2, and X3 and Y3 and/or Y4 may bond to form rings; X1, X2 and X3 = independently selected direct bonds or divalent groups selected from alkylene, aralkylene, arylene, divalent heterocyclic, alkenylene, imino, -SiH2-, silylene, carbonyl, ether, and thioether groups having no

substituents or a substituent which can include a linking group consisting of (un)substituted arylene or divalent heterocyclic groups; Y1-4 = independently selected alkyl, aralkyl, aryl, heterocyclic, amino, silyl, alkylene, aralkylene, alkenylene, imino, -SiH2-, silylene, carbonyl, ether, and thioether groups having no substituents or a substituent which can include a linking group consisting of (un)substituted arylene or divalent heterocyclic groups; R1-4 = independently selected H, halogen, (un)substituted alkyl, (un)substituted aralkyl and (un)substituted arylgroups; and m + n = 0-10) in a host.

IT **669771-56-6**
(organic **light-emitting** devices using hosts doped with Ph group-containing diamine derivs.)

RN 669771-56-6 HCAPLUS

CN 9H-Fluoren-2-amine, N,N'-(9,10-anthracenediyldi-4,1-phenylene)bis[9,9-dimethyl-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 42

IT 189263-91-0 194296-06-5 669016-36-8 669771-38-4
669771-40-8 669771-43-1 669771-48-6 **669771-56-6**
(organic **light-emitting** devices using hosts doped with Ph group-containing diamine derivs.)

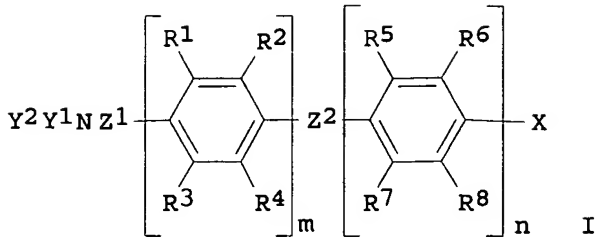
REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 7 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:203794 HCAPLUS
DOCUMENT NUMBER: 140:237125
TITLE: Monooamino fluorescent **dyes** and organic **luminescence** devices using them

INVENTOR(S): Saito, Akihito; Hiraoka, Mizuho; Senoo, Akihiro; Tanabe, Hiroshi; Yamada, Naoki; Negishi, Chika
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004020388	A1	20040311	WO 2003-JP10700	2003 0825
			<--	
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004083513	A2	20040318	JP 2002-248745	2002 0828
			<--	
AU 2003257686	A1	20040319	AU 2003-257686	2003 0825
			<--	
US 2005244670	A1	20051103	US 2005-525622	2005 0225
			<--	
PRIORITY APPLN. INFO.:			JP 2002-248745 A	2002 0828
			<--	
			WO 2003-JP10700 W	2003 0825

OTHER SOURCE(S): MARPAT 140:237125
GI

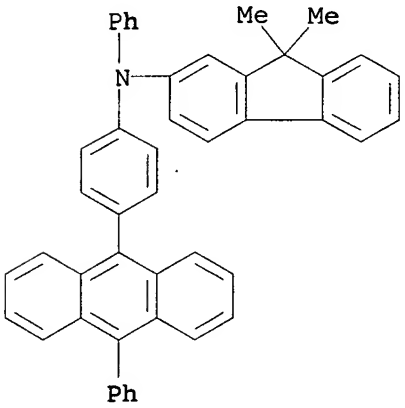


AB Disclosed are monoamino fluorescent **dyes** (I; R1-R8 = H, halogen, organic group; X = H, halogen, organic group; Y1, Y2 = organic group, Y1Y2 may form a ring; Z1, Z2 = divalent group; m + n = 4-10). Using I, **organic** (**electro**) **luminescence** devices are provided, which exhibits a **luminescence** hue with extremely high purity, and having an optical output of a high **luminance** with a high efficiency and a long life time. In an example, 4,4'-dibromo-2,2',3,3',5,5',6,6'-octafluoro-1,1'-biphenyl was condensed (1:1) with 9-(phenylamino)anthracene and the monobromo product was treated with 1-naphthylboronic acid to provide a fluorescent amine **dye.**

IT **668994-16-9**
(amine fluorescent **dyes** and **organic** **luminescence** devices using them)

RN 668994-16-9 HCAPLUS

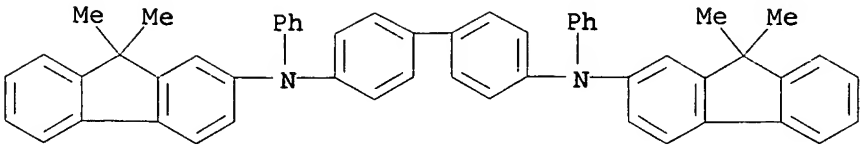
CN 9H-Fluoren-2-amine, 9,9-dimethyl-N-phenyl-N-[4-(10-phenyl-9-anthracenyl)phenyl]- (9CI) (CA INDEX NAME)



IT **361486-60-4**
(in **organic luminescence** devices using amine fluorescent **dyes**)

RN 361486-60-4 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(9,9-dimethyl-9H-fluoren-2-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



IC ICM C07C211-61
ICS C07C211-54; C09K011-06; H05B033-14
CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 25, 74, 76
ST fluorescent amine **dye** prodn electroluminescent device
IT Electroluminescent devices
Fluorescent **dyes**
(production of amine fluorescent **dyes** and **organic luminescence** devices using them)
IT 668994-13-6 668994-14-7 668994-15-8 **668994-16-9**
668994-23-8
(amine fluorescent **dyes** and **organic luminescence** devices using them)
IT **361486-60-4** 475461-36-0 569343-08-4 608130-98-9
668994-18-1 668994-19-2 668994-20-5
(in **organic luminescence** devices using amine fluorescent **dyes**)
IT 668994-21-6P 668994-22-7P
(intermediate; production of amine fluorescent **dyes** and **organic luminescence** devices using them)
IT 668994-12-5P 668994-17-0P
(production of amine fluorescent **dyes** and **organic luminescence** devices using them)
IT 523-27-3, 9,10-Dibromoanthracene 5122-94-1, 4-Biphenylylboronic acid 10386-84-2 13922-41-3, 1-Naphthylboronic acid
15424-38-1 654067-65-9
(starting material; production of amine fluorescent **dyes** and **organic luminescence** devices using them)
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 8 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:203793 HCAPLUS
DOCUMENT NUMBER: 140:254984
TITLE: Monoaminofluorene **dyes** and organic **light-emitting** device using them
INVENTOR(S): Saito, Akihito; Hiraoka, Mizuho; Suzuki, Koichi; Senoo, Akihiro; Tanabe, Hiroshi; Yamada, Naoki; Negishi, Chika
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 101 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

— applicant

WO 2004020387 A1 20040311 WO 2003-JP10260 2003 0812

<--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 2004091350 A2 20040325 JP 2002-252846 2002 0830

<--

AU 2003253443 A1 20040319 AU 2003-253443 2003 0812

<--

EP 1542962 A1 20050622 EP 2003-791210 2003 0812

<--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

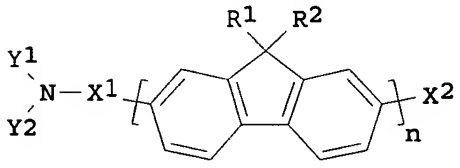
PRIORITY APPLN. INFO.: JP 2002-252846 A 2002 0830

<--

WO 2003-JP10260 W 2003 0812

OTHER SOURCE(S): MARPAT 140:254984

GI



I

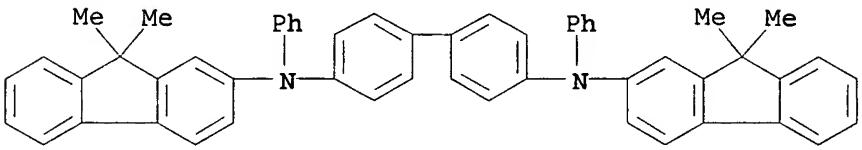
AB Novel monoaminofluorene **dyes** (I; R1, R2 = H, organic group; X = H, halogen, organic group, CN; Y1, Y2 = organic group, Y1 and Y2 together may form a ring; Z = organic divalent group, direct bond; n = 1-10) are provided. Organic **light-emitting** /electroluminescent devices using I exhibit good **luminescence** hue of extremely high purity and have optical output with high **luminescence** efficiency, high

luminance and longer operating life. In an example, 2,2'-bis(9,9-dimethylfluorene) was prepared, monoiodinated on the 7-position, and condensed with bis(p-tolyl)amine to provide a fluorescent **dye**.

IT **361486-60-4**
(in organic **light-emitting** devices using monoaminofluorene **dyes**)

RN 361486-60-4 HCAPLUS

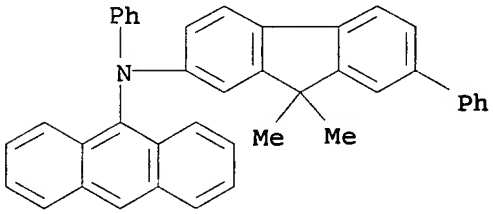
CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(9,9-dimethyl-9H-fluoren-2-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



IT **669059-26-1 669059-28-3 669059-32-9**
669059-33-0 669059-37-4 669059-39-6
669059-41-0 669059-43-2 669059-45-4
669059-47-6 669059-49-8 669059-51-2
669059-55-6 669059-57-8
(monoaminofluorene **dyes** and organic **light-emitting** devices using them)

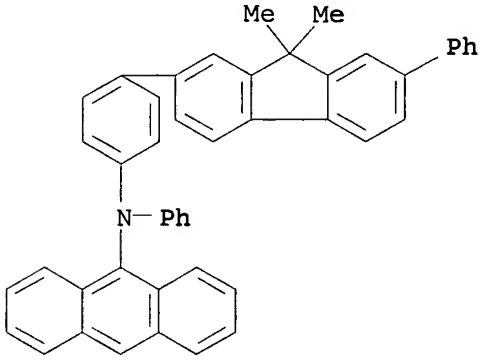
RN 669059-26-1 HCAPLUS

CN 9-Anthracenamine, N-(9,9-dimethyl-7-phenyl-9H-fluoren-2-yl)-N-phenyl- (9CI) (CA INDEX NAME)

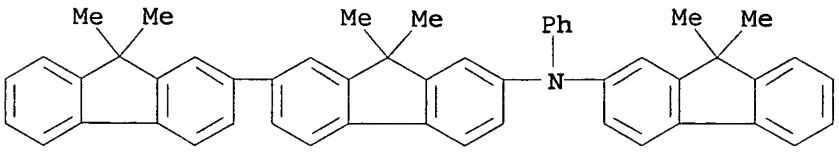


RN 669059-28-3 HCAPLUS

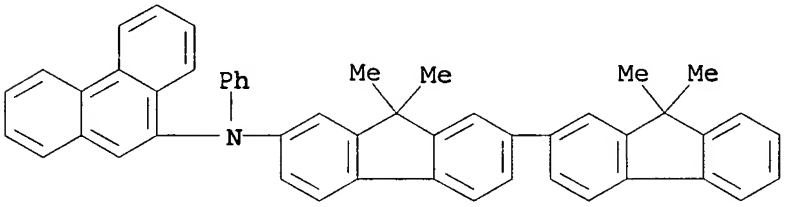
CN 9-Anthracenamine, N-[4-(9,9-dimethyl-7-phenyl-9H-fluoren-2-yl)phenyl]-N-phenyl- (9CI) (CA INDEX NAME)



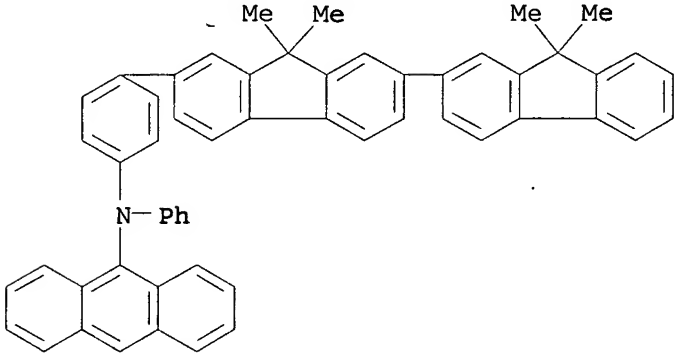
RN 669059-32-9 HCAPLUS
CN [2,2'-Bi-9H-fluoren]-7-amine, N-(9,9-dimethyl-9H-fluoren-2-yl)-9,9,9',9'-tetramethyl-N-phenyl- (9CI) (CA INDEX NAME)



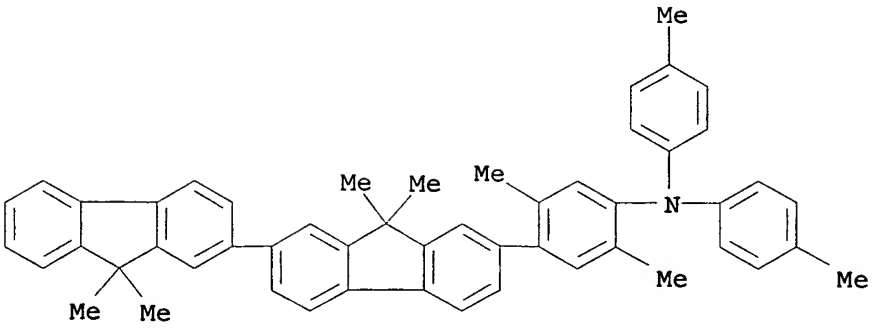
RN 669059-33-0 HCAPLUS
CN 9-Phenanthrenamine, N-phenyl-N-(9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl)- (9CI) (CA INDEX NAME)



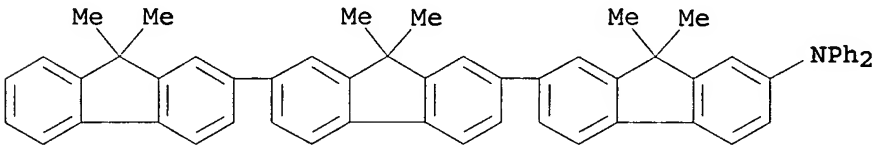
RN 669059-37-4 HCAPLUS
CN 9-Anthracenamine, N-phenyl-N-[4-(9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl)phenyl]- (9CI) (CA INDEX NAME)



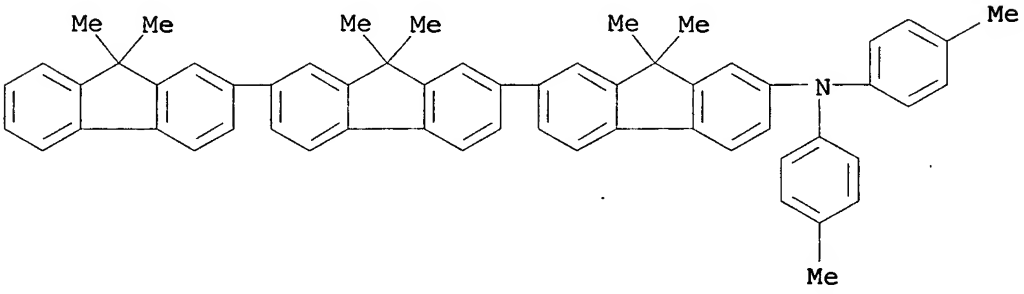
RN 669059-39-6 HCAPLUS
CN Benzenamine, 2,5-dimethyl-N,N-bis(4-methylphenyl)-4-(9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl)- (9CI) (CA INDEX NAME)



RN 669059-41-0 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluoren]-7-amine, 9,9,9',9',9'',9''-hexamethyl-N,N-diphenyl- (9CI) (CA INDEX NAME)

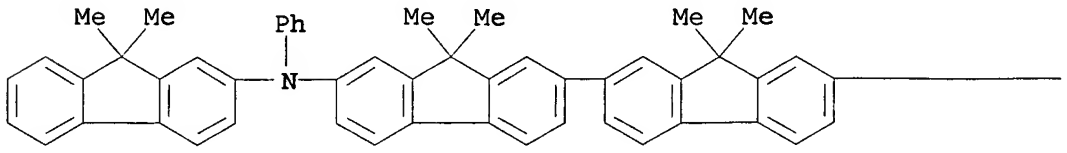


RN 669059-43-2 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluoren]-7-amine, 9,9,9',9',9'',9''-hexamethyl-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

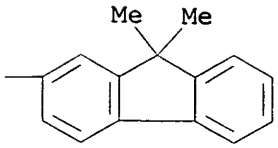


RN 669059-45-4 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluoren]-7-amine, N-(9,9-dimethyl-9H-fluoren-2-yl)-9,9,9',9',9'',9''-hexamethyl-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

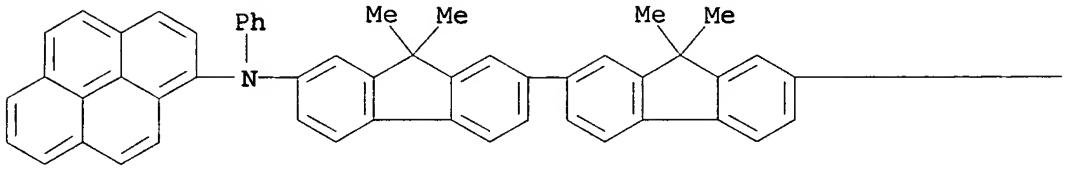


PAGE 1-B

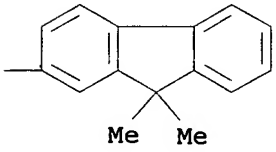


RN 669059-47-6 HCAPLUS
CN 1-Pyrenamine, N-(9,9,9',9',9'',9''-hexamethyl[2,2':7',2''-ter-9H-fluoren]-7-yl)-N-phenyl- (9CI) (CA INDEX NAME)

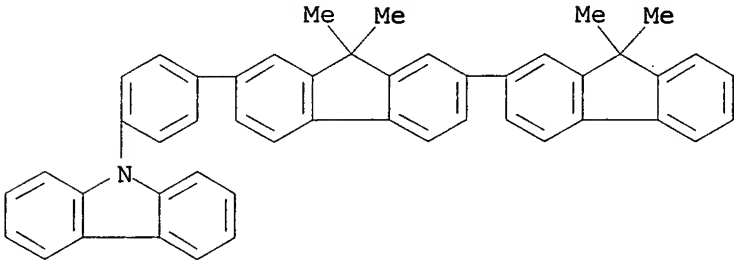
PAGE 1-A



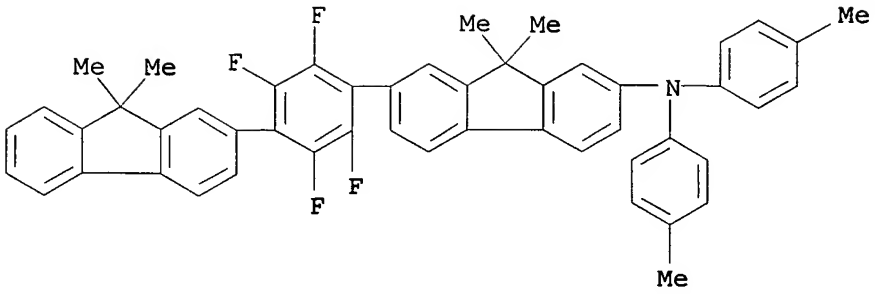
PAGE 1-B



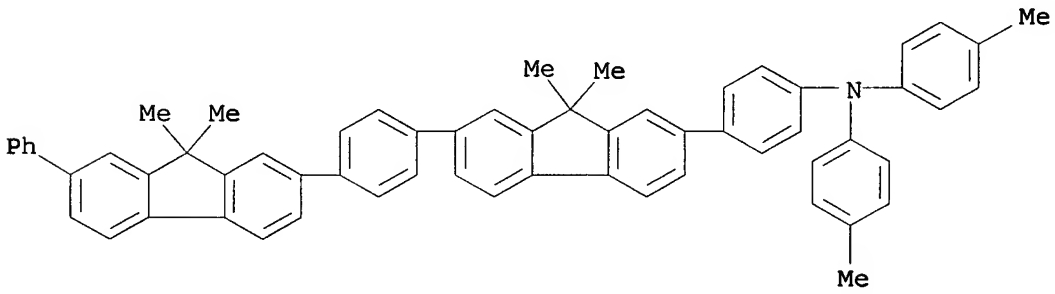
RN 669059-49-8 HCAPLUS
CN 9H-Carbazole, 9-[4-(9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl)phenyl]- (9CI) (CA INDEX NAME)



RN 669059-51-2 HCAPLUS
CN 9H-Fluoren-2-amine, 7-[4-(9,9-dimethyl-9H-fluoren-2-yl)-2,3,5,6-tetrafluorophenyl]-9,9-dimethyl-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

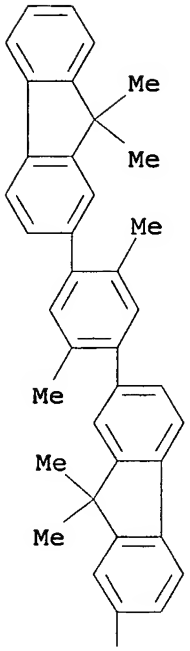


RN 669059-55-6 HCAPLUS
CN Benzenamine, 4-[7-[4-(9,9-dimethyl-7-phenyl-9H-fluoren-2-yl)phenyl]-9,9-dimethyl-9H-fluoren-2-yl]-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

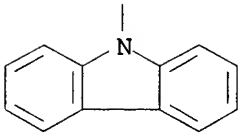


RN 669059-57-8 HCAPLUS
CN 9H-Carbazole, 9-[7-[4-(9,9-dimethyl-9H-fluoren-2-yl)-2,5-dimethylphenyl]-9,9-dimethyl-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)

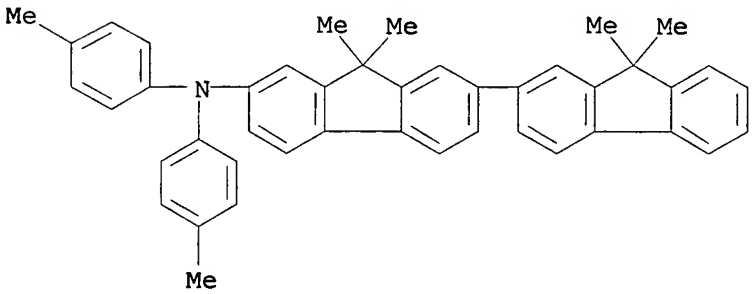
PAGE 1-A



PAGE 2-A

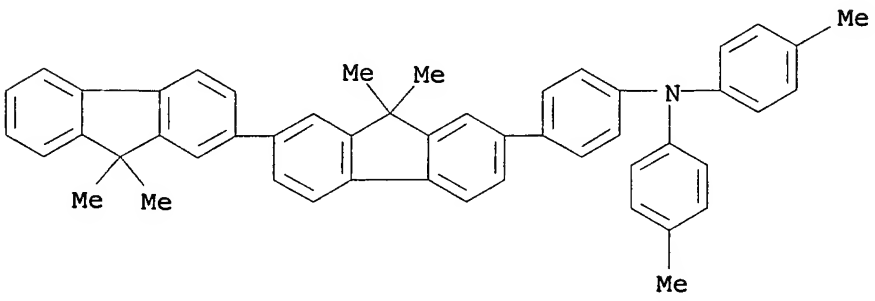


IT **669059-30-7P 669059-35-2P 669059-53-4P**
(production of monoaminofluorene **dyes** and organic **light-emitting** devices using them)
RN 669059-30-7 HCAPLUS
CN [2,2'-Bi-9H-fluoren]-7-amine, 9,9,9',9'-tetramethyl-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

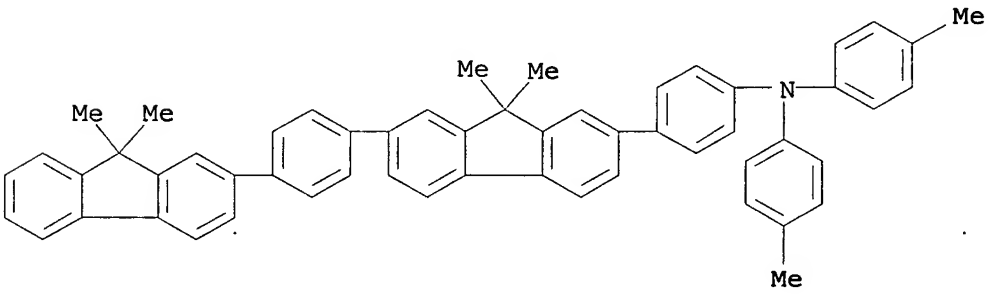


RN 669059-35-2 HCAPLUS

CN Benzenamine, N,N-bis(4-methylphenyl)-4-(9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl)- (9CI) (CA INDEX NAME)



RN 669059-53-4 HCAPLUS
CN Benzenamine, 4-[7-[4-(9,9-dimethyl-9H-fluoren-2-yl)phenyl]-9,9-dimethyl-9H-fluoren-2-yl]-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM C07C211-61
ICS C09K011-06; H05B033-14
CC 41-11 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 25, 74, 76
ST fluorene amine **dye** prodn electroluminescent device
IT Electroluminescent devices
Fluorescent **dyes**
(production of monoaminofluorene **dyes** and organic **light-emitting** devices using them)
IT **361486-60-4** 441352-90-5 475461-36-0 549528-98-5
608130-98-9 668994-18-1 668994-19-2 668994-20-5
(in organic **light-emitting** devices using monoaminofluorene **dyes**)
IT 400607-20-7P 505078-42-2P 669059-71-6P 669059-73-8P
(intermediate; production of monoaminofluorene **dyes** and organic **light-emitting** devices using them)
IT **669059-26-1 669059-28-3 669059-32-9**
669059-33-0 669059-37-4 669059-39-6
669059-41-0 669059-43-2 669059-45-4
669059-47-6 669059-49-8 669059-51-2
669059-55-6 669059-57-8
(monoaminofluorene **dyes** and organic **light-emitting** devices using them)
IT **669059-30-7P 669059-35-2P 669059-53-4P**
(production of monoaminofluorene **dyes** and organic

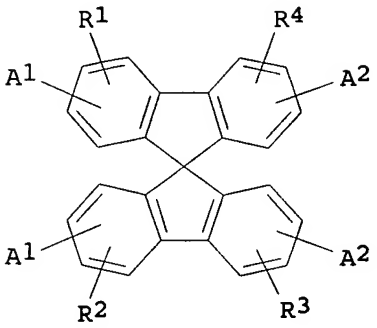
light-emitting devices using them)
IT 620-93-9 4612-26-4, p-Phenylenediboronic acid 7553-56-2, Iodine, reactions 144981-85-1, 2-Iodo-9,9-dimethylfluorene 333432-28-3 654067-65-9
(starting material; production of monoaminofluorene **dyes** and organic **light-emitting** devices using them)
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 9 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:203785 HCAPLUS
DOCUMENT NUMBER: 140:254983
TITLE: Spirobifluorene dyes and organic electroluminescent devices using them
INVENTOR(S): Suzuki, Koichi; Hiraoka, Mizuho; Senoo, Akihiro; Yamada, Naoki; Negishi, Chika; Saito, Akihito
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 91 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004020373	A1	20040311	WO 2003-JP10258	2003 0812
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004083483	A2	20040318	JP 2002-246601	2002 0827
AU 2003253441	A1	20040319	AU 2003-253441	2003 0812
US 2006134425	A1	20060622	US 2005-525327	2005 0222
PRIORITY APPLN. INFO.:			JP 2002-246601 A	2002 0827

<--
WO 2003-JP10258 W
2003
0812

OTHER SOURCE(S): MARPAT 140:254983
GI



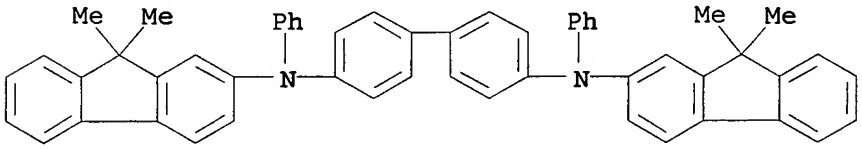
I

AB Provided are novel spirobifluorenes (I; A1, A2 = optionally substituted polycyclic aromatic of heterocyclic group; R1-R4 = H, organic group, substituted amino, CN, halogen). Organic electroluminescence devices using the spiro compound have an optical output with an extremely high efficiency and a high **luminance**, and an extremely high durability. In an example, 2,2',7,7'-tetrabromo-9,9'-spirobifluorene was treated with 9,9-dimethylfluorene-2-boronic acid in the presence of Pd(PPh3)4 to give a spirobifluorene compound containing 4 dimethylfluorene groups.

IT **361486-60-4**
(in organic electroluminescent devices containing spirobifluorene dyes)

RN 361486-60-4 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(9,9-dimethyl-9H-fluoren-2-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



IC ICM C07C013-72
ICS C07C025-22; C07C255-52; C07D209-86; C07D219-02; C07D471-04; C07F007-08; C07F007-12; C09K011-06; H05B033-14; H05B033-22

CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 25, 29, 74, 76

IT 143886-09-3 203459-05-6 216454-35-2 228871-85-0
239475-91-3 **361486-60-4** 522653-17-4 607739-77-5
607739-84-4 669016-10-8 669016-11-9 669016-12-0
669016-13-1 669016-14-2 669016-15-3 669016-16-4
669016-17-5 669016-18-6 669016-19-7 669016-20-0

669016-21-1 669016-22-2 669016-23-3 669016-24-4
669016-25-5 669016-26-6 669016-27-7 669016-28-8
669016-29-9 669016-30-2 669077-94-5 669077-95-6
669078-02-8 669078-03-9 669078-04-0
(in organic electroluminescent devices containing spirobifluorene dyes)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 10 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:203784 HCAPLUS
DOCUMENT NUMBER: 140:254982
TITLE: Fluorene dyes and organic electroluminescent devices using them
INVENTOR(S): Suzuki, Koichi; Hiraoka, Mizuho; Senoo, Akihiro; Yamada, Naoki; Negishi, Chika; Saito, Akihito; Tanaka, Daisaku; Yashiro, Ryoji
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 87 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004020372	A1	20040311	WO 2003-JP10259 <--	2003 0812
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004083481	A2	20040318	JP 2002-246447 <--	2002 0827
AU 2003253442	A1	20040319	AU 2003-253442 <--	2003 0812
CN 1571763	A	20050126	CN 2003-801333 <--	2003 0812
EP 1532089	A1	20050525	EP 2003-791209	2003 0812

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

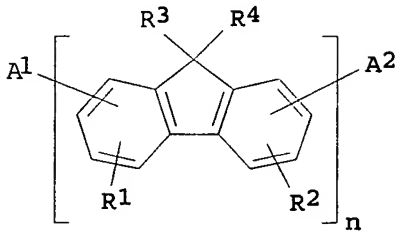
US 2004253389 A1 20041216 US 2004-491745 2004 0406

PRIORITY APPLN. INFO.: JP 2002-246447 A 2002 0827

WO 2003-JP10259 W 2003 0812

OTHER SOURCE(S): MARPAT 140:254982

GI



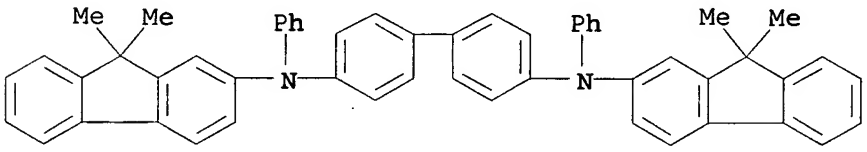
I

AB Fluorene dyes (I; A1, A2 = optionally substituted polycyclic aromatic group; R1, R2 = H, organic group, substituted amino, CN, halogen; n = 1-10) are disclosed which are used to provide organic electroluminescent devices. Such devices have an optical output exhibiting a high **luminance** with an extremely high efficiency, and have extremely high durability. In an example, 2,7-dibromo-9,9-dimethylfluorene was condensed (1:2) with 1-pyreneboronic acid to give a fluorescent dye.

IT **361486-60-4**
(in organic electroluminescent devices using fluorene dyes)

RN 361486-60-4 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(9,9-dimethyl-9H-fluoren-2-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



IC ICM C07C013-573
ICS C07C013-62; C07C013-66; C07C022-08; C07C025-22; C07C211-61; C07C217-92; C07D213-53; C07D219-02; C07D333-16; C09K011-06; H05B033-14; H05B033-22

CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 25, 74, 76

IT 33895-41-9 34904-22-8 106614-56-6 130965-28-5 143886-09-3
202590-16-7 203459-05-6 216454-35-2 228871-85-0
239475-91-3 **361486-60-4** 522653-17-4 607739-77-5
607739-84-4 669016-09-5 669016-10-8 669016-11-9
669016-12-0 669016-13-1 669016-14-2 669016-15-3
669016-16-4 669016-17-5 669016-18-6 669016-19-7
669016-20-0 669016-21-1 669016-22-2 669016-23-3
669016-24-4 669016-25-5 669016-26-6 669016-27-7
669016-28-8 669016-29-9 669016-30-2 669016-31-3
669016-32-4 669016-33-5 669016-34-6 669016-35-7
669016-36-8 669016-37-9 669016-38-0 669016-39-1
669016-40-4 669016-41-5 669016-42-6 669016-43-7
669016-44-8 669016-45-9 669016-46-0 669016-47-1
(in organic electroluminescent devices using fluorene dyes)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 11 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:203783 HCAPLUS
DOCUMENT NUMBER: 140:261171
TITLE: Condensed polycyclic compounds and organic **light-emitting** device using the same
INVENTOR(S): Suzuki, Koichi; Kawai, Tatsundo; Senoo, Akihiro; Yamada, Naoki; Saito, Akihito; Okajima, Maki
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 77 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004020371	A1	20040311	WO 2003-JP10783	2003 0826

<--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 2004107326	A2	20040408	JP 2003-291191	2003 0811

<--

AU 2003256085	A1	20040319	AU 2003-256085	2003

					0826
			<--		
US 2005236974	A1	20051027	US 2005-522947		
					2005
					0202
			<--		
PRIORITY APPLN. INFO.:			JP 2002-246600	A	
					2002
					0827
			<--		
			JP 2003-291191	A	
					2003
					0811
			WO 2003-JP10783	W	
					2003
					0826

OTHER SOURCE(S): MARPAT 140:261171
GI

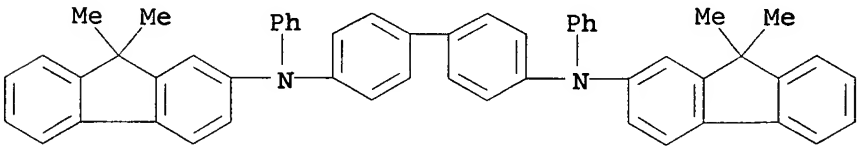
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention is directed to the preparation of condensed polycyclic compds. I as (component) of organic **light-emitting** devices that are extremely efficient in a light output with high **luminance** and is extremely durable [R1 = H, halo, cyano, substituted amino or (un)substituted alkyl, aralkyl, aryl; Ar1 to Ar5 = independently (un)substituted condensed polycyclic aromatic group or condensed polycyclic heterocyclic group]. For example, Suzuki cross-coupling of hexabromobenzene with 9,9-dimethylfluorene-2-boronic acid gave 42% II and 17% all substituted 9,9-dimethylfluorenyl II. A device fabricated using II in the active layer exhibited blue emission with a **luminance** of 2800 cd/m2 at a c.d. of 10 mA/cm2.

IT **361486-60-4**
(preparation of condensed polycyclic compds. and their use to the manufacture of organic **light-emitting** devices)

RN 361486-60-4 HCAPLUS

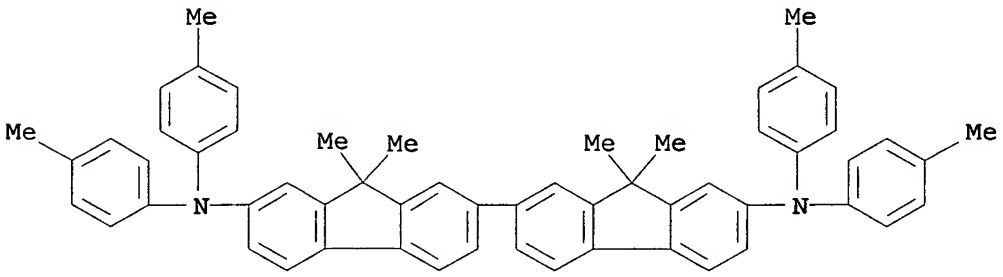
CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(9,9-dimethyl-9H-fluoren-2-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



IT **228871-85-0 669016-14-2 669016-15-3 669016-18-6 669016-23-3 669016-26-6 669016-28-8 669016-29-9 669016-30-2**
(preparation of condensed polycyclic compds. and their use to the manufacture of organic **light-emitting** devices)

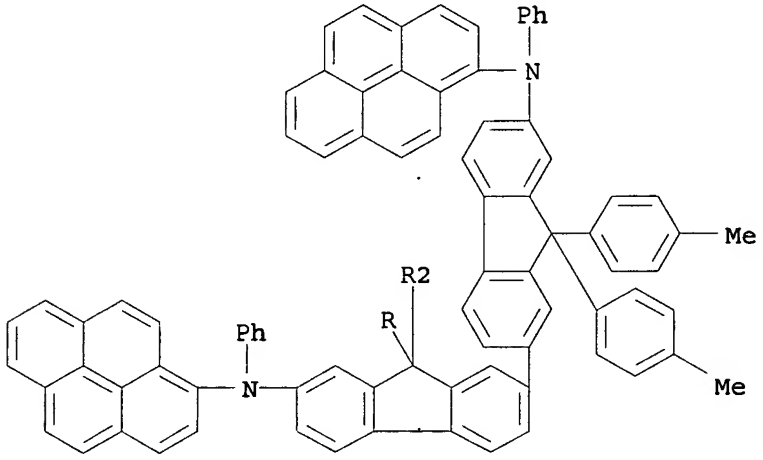
RN 228871-85-0 HCAPLUS

CN [2,2'-Bi-9H-fluorene]-7,7'-diamine, 9,9,9',9'-tetramethyl-N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

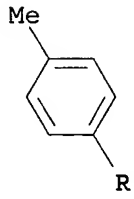


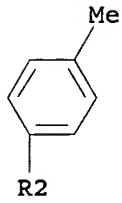
RN 669016-14-2 HCAPLUS
CN [2,2'-Bi-9H-fluorene]-7,7'-diamine, 9,9,9',9'-tetrakis(4-methylphenyl)-N,N'-diphenyl-N,N'-di-1-pyrenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

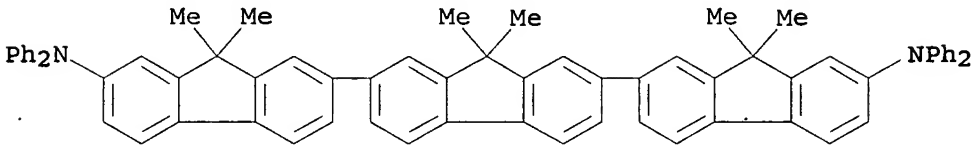


PAGE 2-A



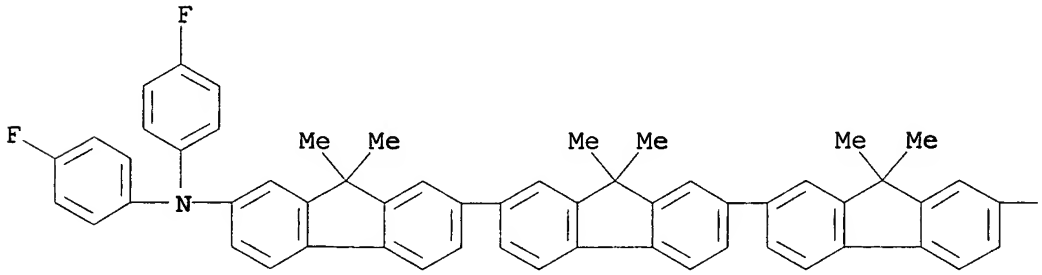


RN 669016-15-3 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluorene]-7,7''-diamine, 9,9,9',9',9'',9''-hexamethyl-N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)

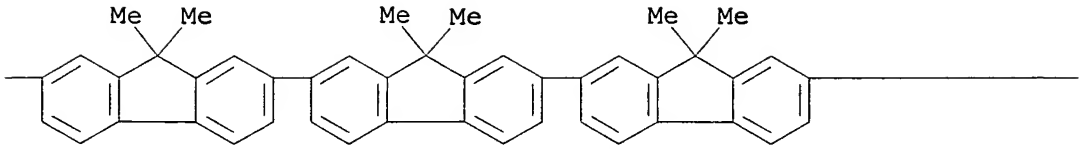


RN 669016-18-6 HCAPLUS
CN [2,2':7',2'':7'',2''':7''',2'''':7'''',2''''':7''''',2'''''':7''''''-Deci-9H-fluorene]-7,7''''''''''-diamine, N,N,N',N'-tetrakis(4-fluorophenyl)-9,9,9',9',9'',9'',9''',9''',9'''',9'''',9''''',9''''',9'''''',9''''''',9''''''',9''''''',9''''''',9''''''''',9''''''''',9''''''''',9'''''''''-eicosamethyl- (9CI) (CA INDEX NAME)

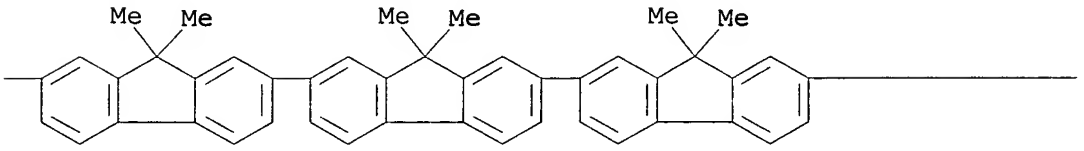
PAGE 1-A



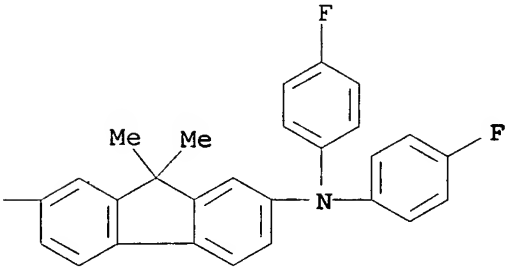
PAGE 1-B



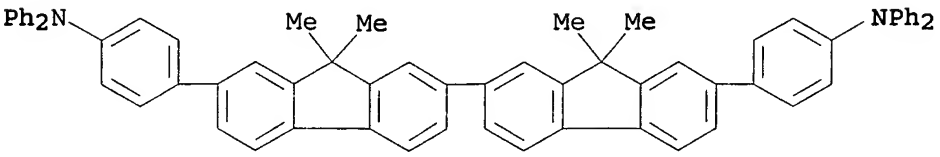
PAGE 1-C



PAGE 1-D

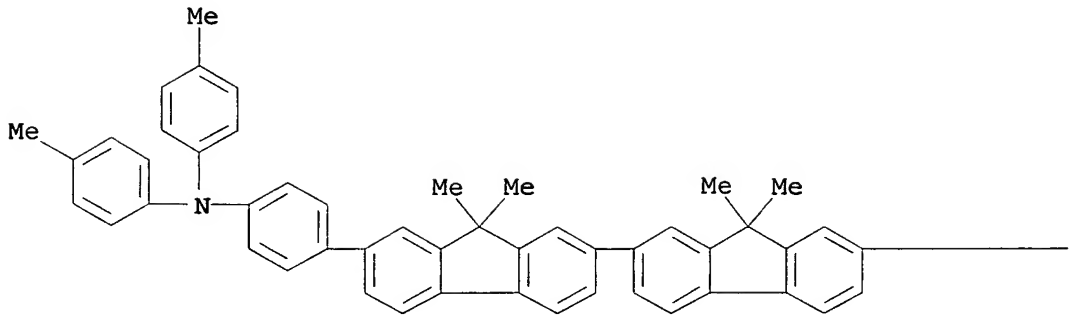


RN 669016-23-3 HCAPLUS
CN Benzenamine, 4,4'-(9,9,9',9'-tetramethyl[2,2'-bi-9H-fluorene]-7,7'-diyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

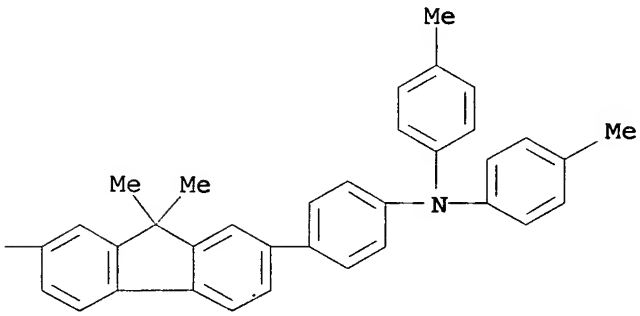


RN 669016-26-6 HCAPLUS
CN Benzenamine, 4,4'-(9,9,9',9',9'',9''-hexamethyl[2,2':7',2''-ter-9H-fluorene]-7,7''-diyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

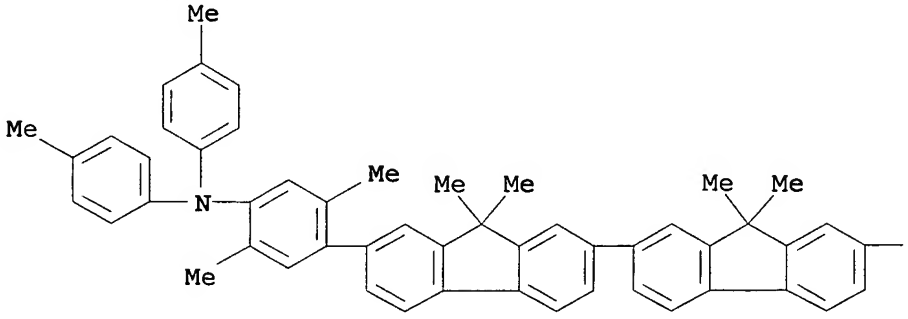


PAGE 1-B

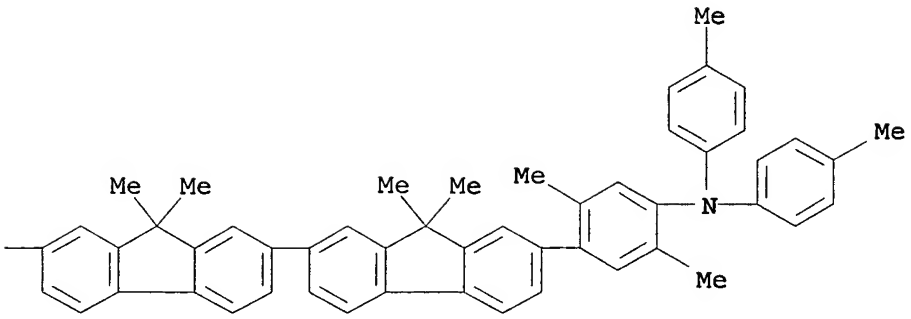


RN 669016-28-8 HCAPLUS
CN Benzenamine, 4,4'-(9,9,9',9',9'',9'',9''',9'''-octamethyl[2,2':7',2'':7'',2'''-quater-9H-fluorene]-7,7'''-diyl)bis[2,5-dimethyl-N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

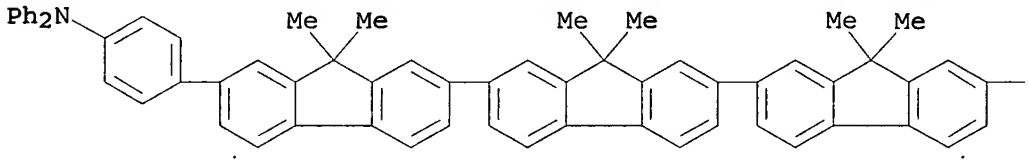


PAGE 1-B

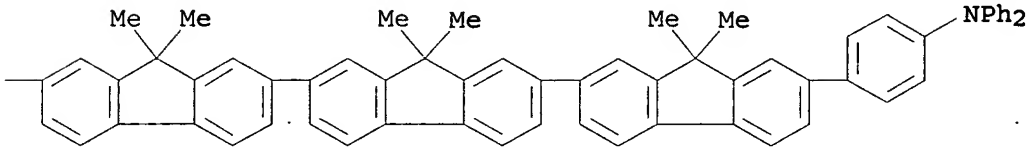


RN 669016-29-9 HCAPLUS
CN Benzenamine, 4,4'-(9,9,9',9',9'',9'',9''',9''',9'''',9'''',9''''',9''''',9'''''',9''''''-dodecamethyl[2,2':7',2'':7'',2''':7''',2'''':7'''',2''''':7''''',2''''''-sexi-9H-fluorene]-7,7''''''-diyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

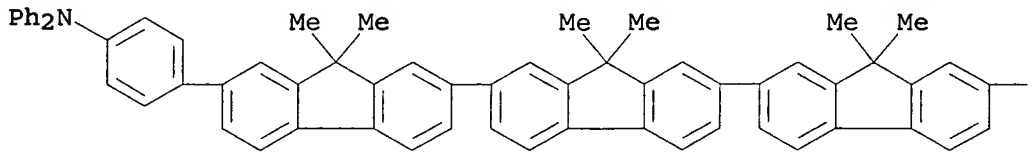


PAGE 1-B

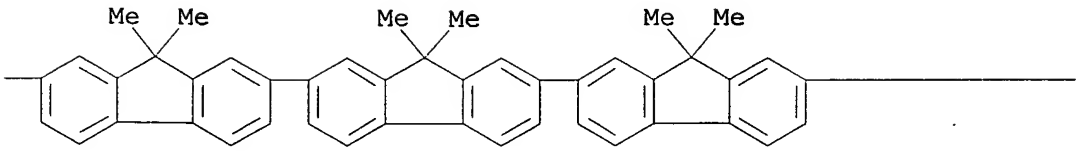


RN 669016-30-2 HCAPLUS
CN Benzenamine, 4,4'-(9,9,9',9',9'',9'',9''',9''',9'''',9'''',9''''',9''''',9'''''',9'''''',9''''''',9''''''',9'''''''',9'''''''',9''''''''',9''''''''',9'''''''''-eicosamethyl[2,2':7',2'':7'',2''':7''',2'''':7'''',2''''':7''''',2'''''':7'''''',2''''''':7''''''',2'''''''':7''''''',2''''''''':7''''''',2'''''''''':7''''''',2''''''''''-deci-9H-fluorene]-7,7''''''''''-diyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)

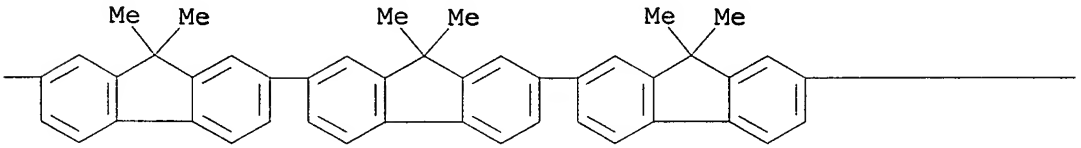
PAGE 1-A



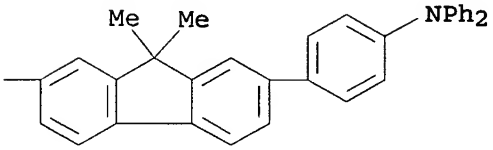
PAGE 1-B



PAGE 1-C

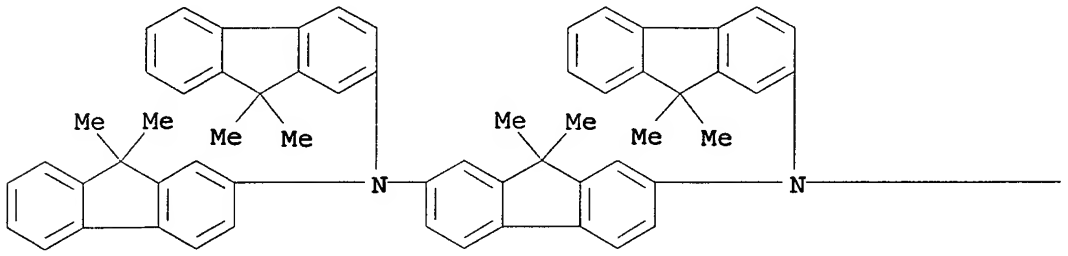


PAGE 1-D

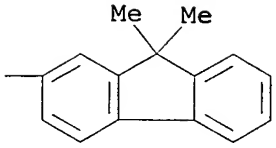


IT **216454-35-2**
(preparation of condensed polycyclic compds. and their use to the manufacture of organic **light-emitting** devices)
RN 216454-35-2 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N,N,N',N'-tetrakis(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C07C013-567
ICS C07C013-66; C07C015-24; C07C015-28; C07C015-30; C07C015-38; C07C025-22; C07C211-58; C07C255-52; C07D401-14; C07D471-04; C09K011-06; H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 76

ST condensed polycyclic compd org **light emitting** device

IT Polycyclic compounds
(condensed polycyclic compound and organic **light-emitting** device using the same)

IT **Luminescent** substances
(electroluminescent; preparation of condensed polycyclic compds. and their use to the manufacture of organic **light-emitting** devices)

IT Electroluminescent devices
(organic; condensed polycyclic compound and organic **light-emitting** device using the same)

IT **361486-60-4** 669773-54-0 669773-55-1 669773-56-2
669773-57-3 669773-58-4 669773-59-5 669773-60-8
669773-61-9 669773-62-0 669773-63-1 669773-64-2
669773-65-3 669773-66-4 669773-67-5 669773-68-6
669773-69-7 669773-74-4 669773-77-7 669773-78-8
(preparation of condensed polycyclic compds. and their use to the manufacture of organic **light-emitting** devices)

IT 668994-19-2P 669773-52-8P 669773-53-9P
(preparation of condensed polycyclic compds. and their use to the manufacture of organic **light-emitting** devices)

IT 94928-86-6 143886-09-3 203459-05-6 **228871-85-0**
239475-91-3 522653-17-4 669016-10-8 **669016-14-2**
669016-15-3 **669016-18-6** 669016-19-7
669016-20-0 669016-22-2 **669016-23-3**
669016-26-6 **669016-28-8** **669016-29-9**
669016-30-2 669077-94-5 669773-71-1 669773-72-2
(preparation of condensed polycyclic compds. and their use to the manufacture of organic **light-emitting** devices)

IT 87-82-1, Hexabromobenzene 87-83-2, 2,3,4,5,6-Pentabromotoluene
216454-35-2 333432-28-3
(preparation of condensed polycyclic compds. and their use to the manufacture of organic **light-emitting** devices)

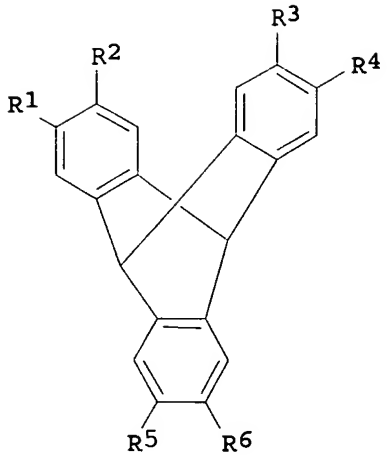
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 12 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:203409 HCAPLUS
DOCUMENT NUMBER: 140:261169
TITLE: Organic light-emitting device using iptycene derivatives
INVENTOR(S): Chen, Jian Ping; Okamura, Yoshimasa
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 43 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004048099	A1	20040311	US 2002-230273	20020829
			<--	
CN 1479561	A	20040303	CN 2003-146250	20030704
			<--	
EP 1413617	A1	20040428	EP 2003-255112	20030818
			<--	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004095554	A2	20040325	JP 2003-303405	20030827
			<--	
JP 3762398	B2	20060405		
US 2004253479	A1	20041216	US 2004-883802	20040706
			<--	
US 6962758	B2	20051108		
PRIORITY APPLN. INFO.:			US 2002-230273 A	20020829
			<--	

OTHER SOURCE(S): MARPAT 140:261169
GI



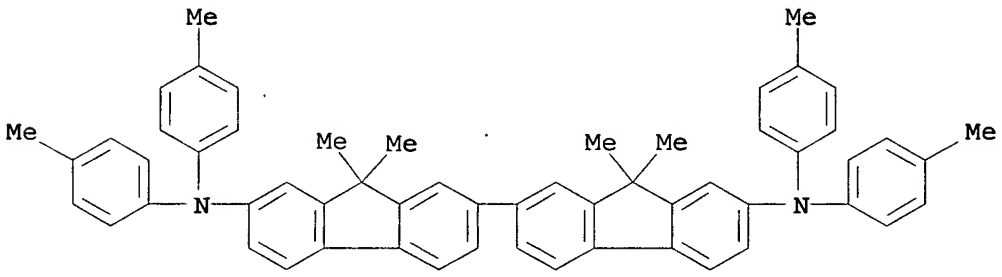
I

AB Organic light-emitting devices are described in which the emissive layer and/or ≥1 charge transport layer includes an iptycene derivative described by the general formula I (any or all of R1-6 may be absent; any or all of R1 and R2, R3 and R4, and R5 and R6 may be taken together to form an aryl group; and any or all of R1-6 may represent a charge-transport substituent).

IT **228871-85-0P**
(organic **light-emitting** devices using iptycene derivs.)

RN 228871-85-0 HCAPLUS

CN [2,2'-Bi-9H-fluorene]-7,7'-diamine, 9,9,9',9'-tetramethyl-N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM H05B033-12

INCL 428690000; 428917000; 313504000; 313506000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT **228871-85-0P** 669072-89-3P
(organic **light-emitting** devices using iptycene derivs.)

L37 ANSWER 13 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:872389 HCAPLUS

DOCUMENT NUMBER: 139:371619

TITLE: Semiconducting hole injection materials for organic **light emitting** devices

INVENTOR(S): Hsieh, Bing R.; Li, Xiao-Chang; Sellinger, Alan
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

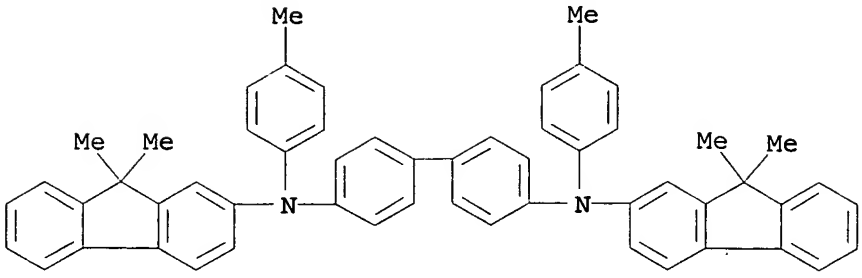
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1359630	A2	20031105	EP 2003-252295	2003 0411
			<--	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2003207152	A1	20031106	US 2002-124236	2002 0418
			<--	
US 6830830	B2	20041214		
CN 1452442	A	20031029	CN 2003-123115	2003 0417
			<--	
JP 2004006321	A2	20040108	JP 2003-114192	2003 0418
			<--	
PRIORITY APPLN. INFO.:			US 2002-124236 A	2002 0418
			<--	

AB An oxidized charge transport material having hole transport capability in organic **light emitting** device (OLEDs) is described comprising a charge transport compound including more than two triarylamine groups, or including at least one triarylamine group and at least one fluorene group, and an oxidant (e.g., SbF6-, AuCl4-, AsF6-) complexed with the charge transport compound, wherein a portion of the charge transport compound is not complexed with the oxidant. The charge transport materials exhibit good hole transport characteristics and film forming properties.

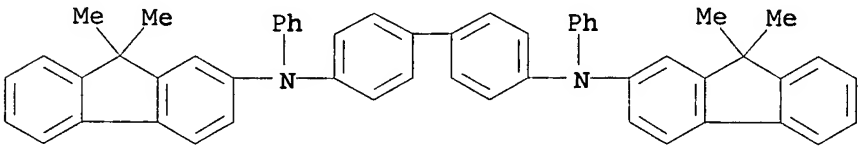
IT **246856-76-8 361486-60-4**
(hole injection material; semiconducting hole injection materials for organic **light emitting** devices)

RN 246856-76-8 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(9,9-dimethyl-9H-fluoren-2-yl)-N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 361486-60-4 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(9,9-dimethyl-9H-fluoren-2-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



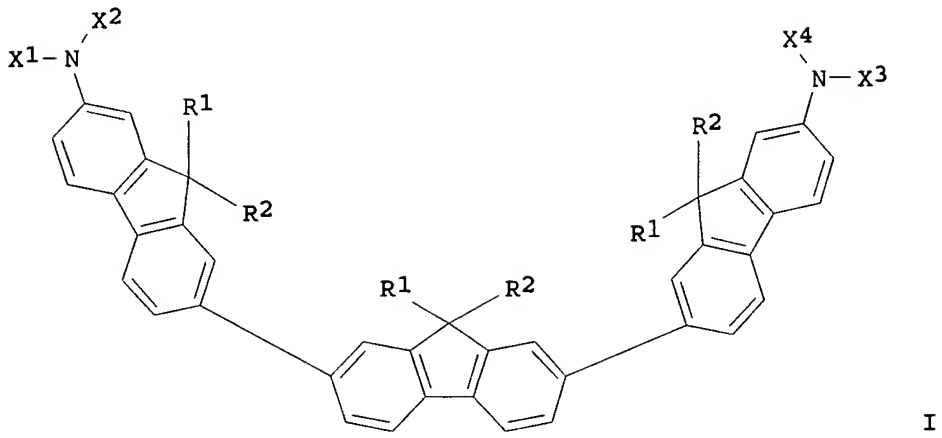
IC ICM H01L051-20
ICS H05B033-22; C09K011-06; H01L051-30
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 22, 76
ST semiconducting hole injection material **light emitting** device
IT Semiconductor materials
(hole injection materials; semiconducting hole injection materials for organic **light emitting** devices)
IT Electroluminescent devices
(semiconducting hole injection materials for organic **light emitting** devices)
IT 2085-33-8, AlQ3
(emission layer; semiconducting hole injection materials for organic **light emitting** devices)
IT 123173-91-1 **246856-76-8 361486-60-4**
620958-36-3 620958-39-6
(hole injection material; semiconducting hole injection materials for organic **light emitting** devices)
IT 14337-12-3, Gold chloride (AuCl41-) 16973-45-8, Hexafluoroarsenate (AsF61-) 17111-95-4, Hexafluoroantimonate (SbF61-)
(oxidant; semiconducting hole injection materials for organic **light emitting** devices)

L37 ANSWER 14 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:777744 HCAPLUS
DOCUMENT NUMBER: 139:299013
TITLE: Oligofluorenylene compounds
INVENTOR(S): Saitoh, Akihito; Hiraoka, Mizuho; Suzuki, Koichi; Senoo, Akihiro; Tanabe, Hiroshi; Yamada, Naoki; Negishi, Chika; Kasahara, Maki
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 62 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003080559	A1	20031002	WO 2003-JP3615	2003 0325
			<--	
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004002298	A2	20040108	JP 2003-6796	2003 0115
			<--	
AU 2003221098	A1	20031008	AU 2003-221098	2003 0325
			<--	
EP 1487779	A1	20041222	EP 2003-712917	2003 0325
			<--	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1568303	A	20050119	CN 2003-801298	2003 0325
			<--	
US 2005106414	A1	20050519	US 2003-506300	2003 0325
			<--	
PRIORITY APPLN. INFO.:			JP 2002-88918 A	2002 0327
			<--	
			JP 2003-6796 A	2003 0115
			WO 2003-JP3615 W	2003 0325

OTHER SOURCE(S): MARPAT 139:299013
GI



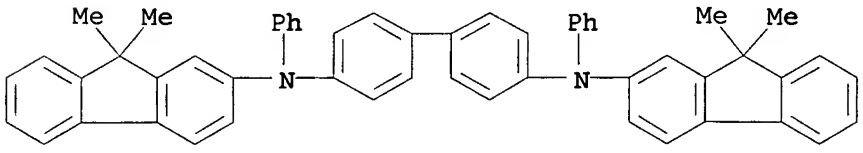
I

AB An oligofluorenylene compound for organic LED is described comprising a unit according to I (wherein X1 to X4 are each (un)substituted alkyl group, aralkyl group, aryl group, and heterocyclic group, a (un)substituted alkenyl group, alkynyl group, amino group, alkoxy group, and sulfide group which have a connecting group comprising a (un)substituted arylene group or divalent heterocyclic group, and a substituted silyl group and carbonyl group which have a connecting group comprising a (un)substituted arylene group or divalent heterocyclic group, which may be the same or different, and X1 and X2, and X3 and X4 may be linked to each other to form a ring, wherein R1 and R2 are each consisting of a hydrogen atom and a (un)substituted alkyl group, aralkyl group, and aryl group, R1 and R2 may be the same or different, and resp. R1 and R2 on different fluorenylene rings may be the same or different, and wherein n is an integer of 1 to 20). An organic **light-emitting** device comprising the organic compound is also described.

IT **361486-60-4**
(hole carrier; oligofluorenylene compds. for organic **light-emitting** devices)

RN 361486-60-4 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(9,9-dimethyl-9H-fluoren-2-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

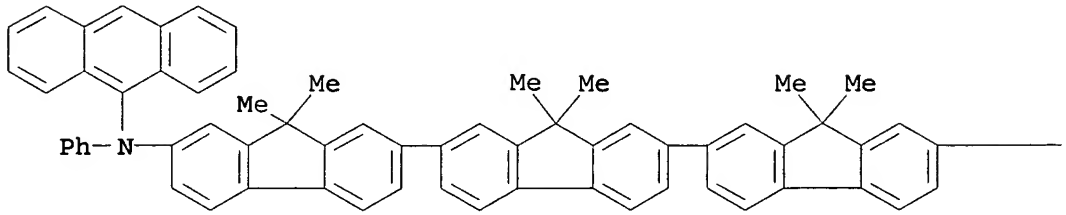


IT **607739-68-4P**
(oligofluorenylene compds. for organic **light-emitting** devices)

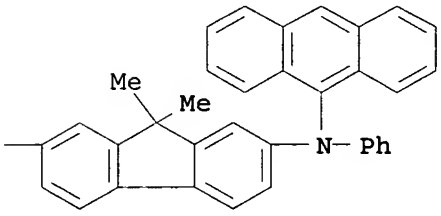
RN 607739-68-4 HCAPLUS

CN [2,2':7',2'':7'',2'''-Quater-9H-fluorene]-7,7'''-diamine, N,N'-di-9-anthracenyl-9,9,9',9',9'',9'',9''',9'''-octamethyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

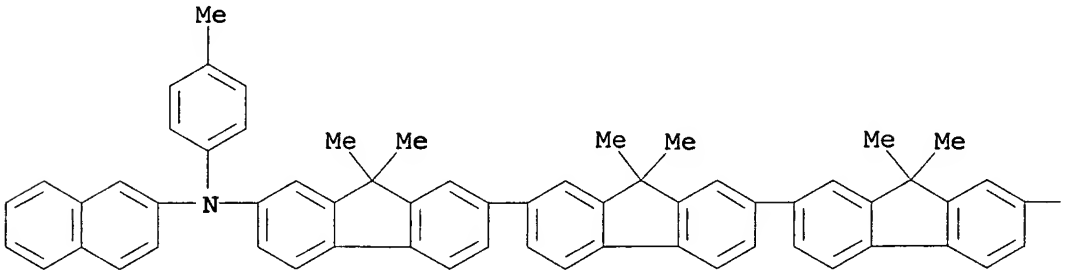


IT **607739-69-5 607739-70-8 607739-71-9 607739-72-0 607739-73-1 607739-74-2 607739-75-3 607739-76-4 607739-77-5 607739-78-6 607739-79-7 607739-83-3 607739-84-4**
(organic fluorescent material; oligofluorenylene compds. for organic **light-emitting** devices)

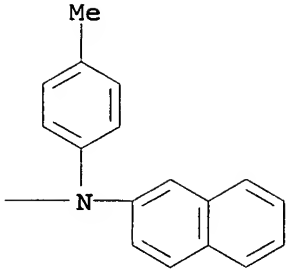
RN 607739-69-5 HCAPLUS

CN [2,2':7',2''-Ter-9H-fluorene]-7,7''-diamine, 9,9,9',9',9'',9''-hexamethyl-N,N'-bis(4-methylphenyl)-N,N'-di-2-naphthalenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

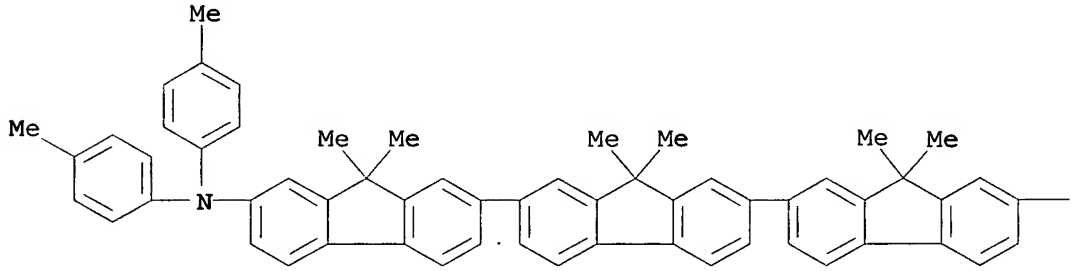


PAGE 1-B

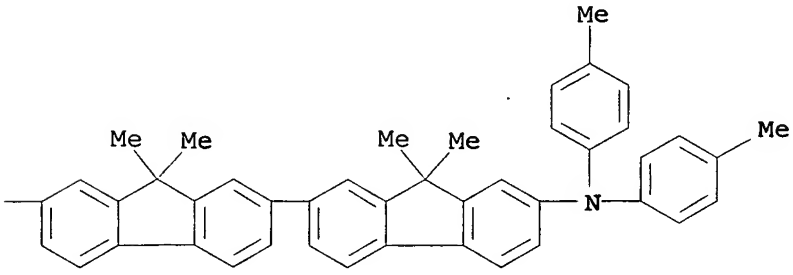


RN 607739-70-8 HCAPLUS
CN [2,2':7',2'':7'',2''':7''',2'''':7''''-Quinque-9H-fluorene]-7,7''''-diamine, 9,9,9',9',9'',9'',9''',9''',9'''',9''''-decamethyl-N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

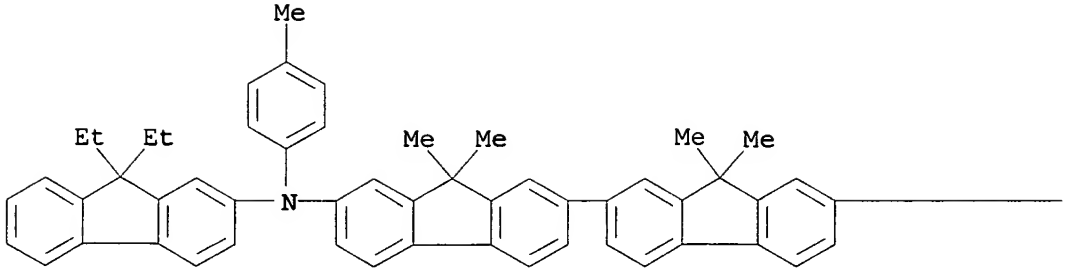


PAGE 1-B

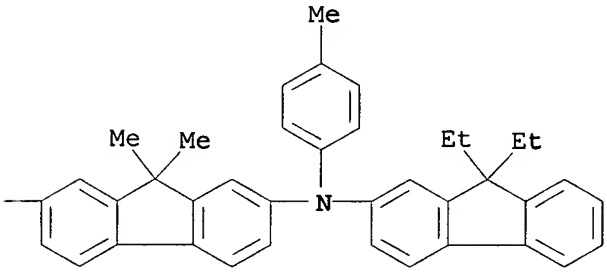


RN 607739-71-9 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluorene]-7,7''-diamine, N,N'-bis(9,9-diethyl-9H-fluoren-2-yl)-9,9,9',9',9'',9''-hexamethyl-N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

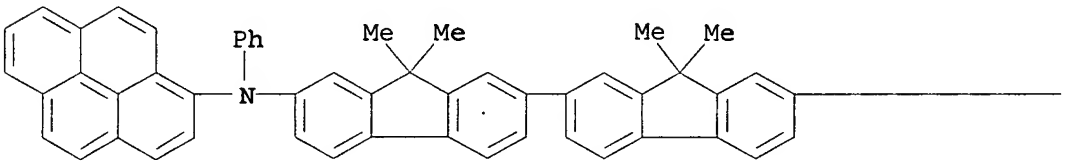


PAGE 1-B

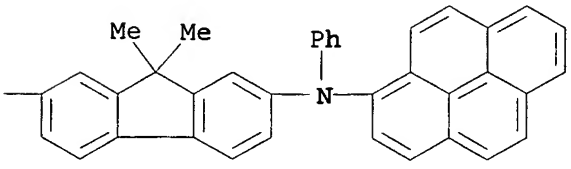


RN 607739-72-0 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluorene]-7,7''-diamine, 9,9,9',9',9'',9''-hexamethyl-N,N'-diphenyl-N,N'-di-1-pyrenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

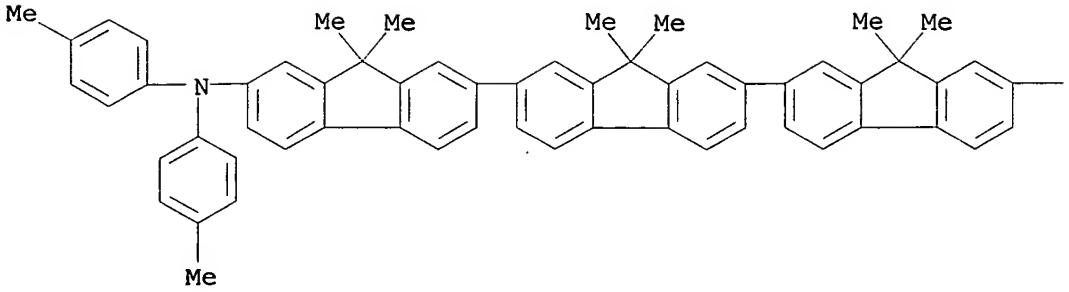


PAGE 1-B

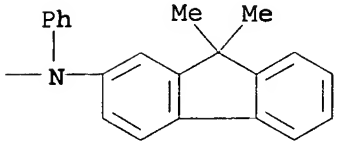


RN 607739-73-1 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluorene]-7,7''-diamine, N-(9,9-dimethyl-9H-fluoren-2-yl)-9,9,9',9',9'',9''-hexamethyl-N',N'-bis(4-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

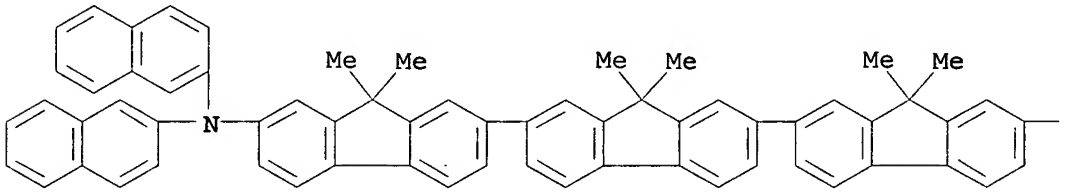


PAGE 1-B

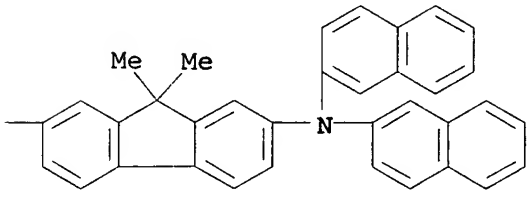


RN 607739-74-2 HCAPLUS
CN [2,2':7',2'':7'',2'''-Quater-9H-fluorene]-7,7'''-diamine, 9,9,9',9',9'',9'',9''',9'''-octamethyl-N,N,N',N'-tetra-2-naphthalenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

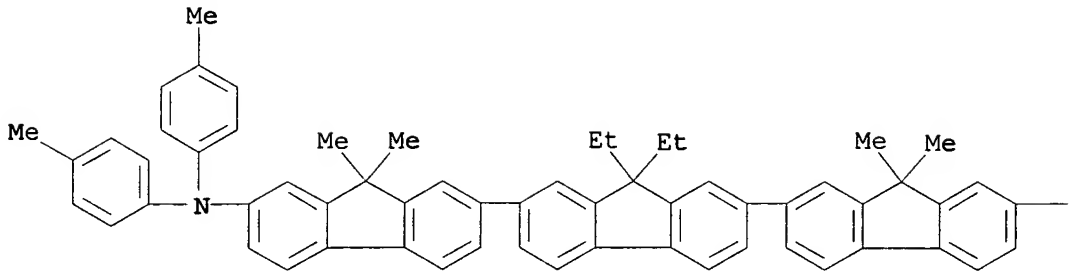


PAGE 1-B

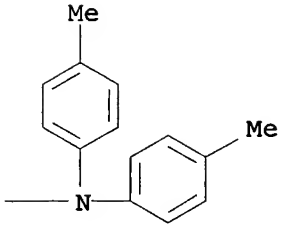


RN 607739-75-3 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluorene]-7,7''-diamine, 9',9'-diethyl-9,9,9'',9''-tetramethyl-N,N,N',N'-tetrakis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

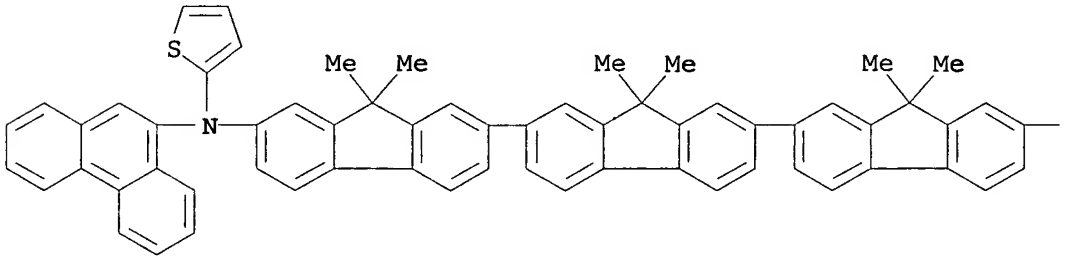


PAGE 1-B

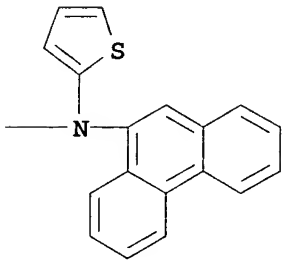


RN 607739-76-4 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluorene]-7,7''-diamine, 9,9,9',9',9'',9''-hexamethyl-N,N'-di-9-phenanthrenyl-N,N'-di-2-thienyl- (9CI) (CA INDEX NAME)

PAGE 1-A

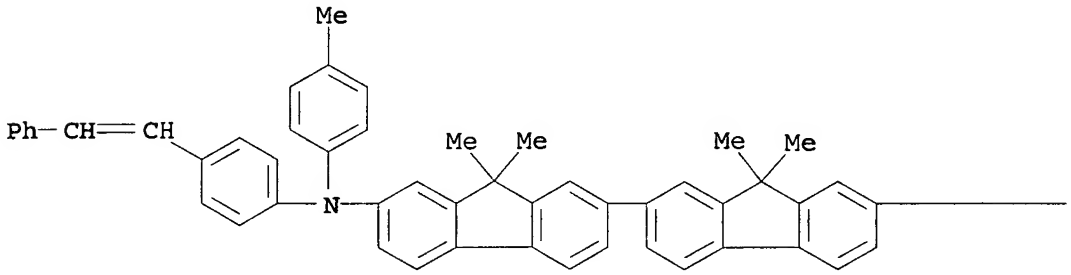


PAGE 1-B

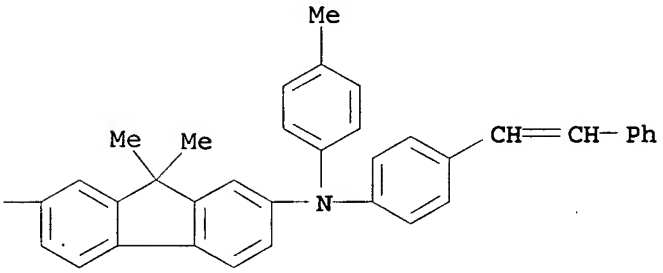


RN 607739-77-5 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluorene]-7,7''-diamine, 9,9,9',9',9'',9''-hexamethyl-N,N'-bis(4-methylphenyl)-N,N'-bis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

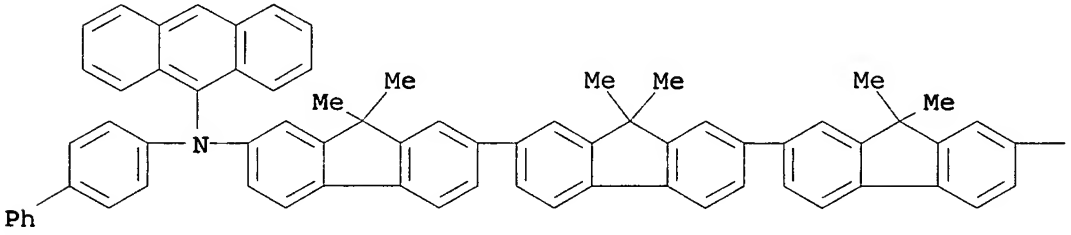


PAGE 1-B

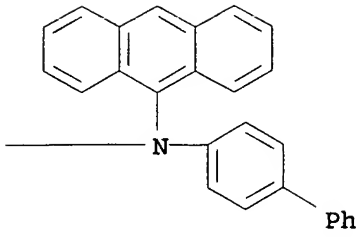


RN 607739-78-6 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluorene]-7,7''-diamine, N,N'-di-9-anthracenyl-N,N'-bis([1,1'-biphenyl]-4-yl)-9,9,9',9',9'',9''-hexamethyl- (9CI) (CA INDEX NAME)

PAGE 1-A

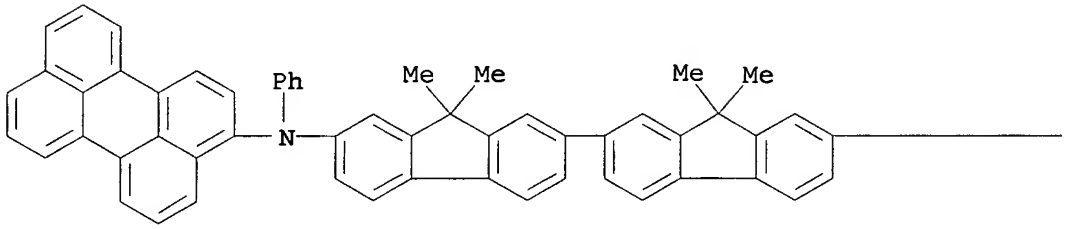


PAGE 1-B

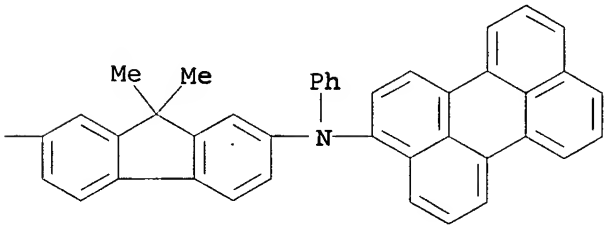


RN 607739-79-7 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluorene]-7,7''-diamine, 9,9,9',9',9'',9''-hexamethyl-N,N'-di-3-perylenyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

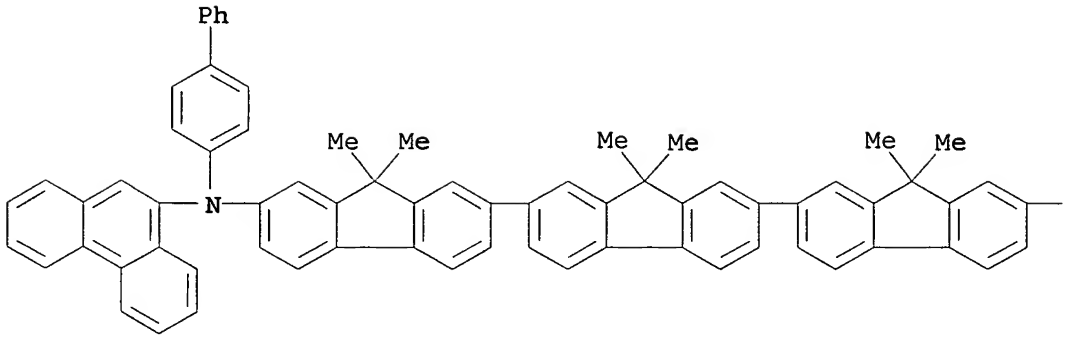


PAGE 1-B

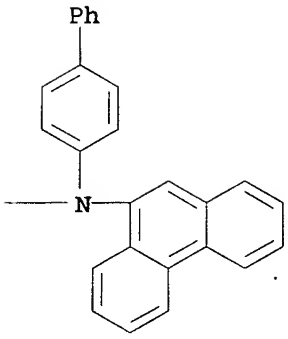


RN 607739-83-3 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluorene]-7,7''-diamine, N,N'-bis([1,1'-biphenyl]-4-yl)-9,9,9',9',9'',9''-hexamethyl-N,N'-di-9-phenanthrenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

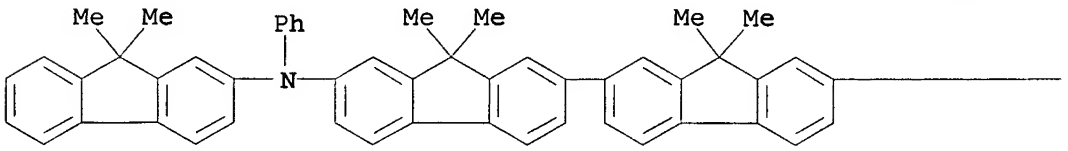


PAGE 1-B

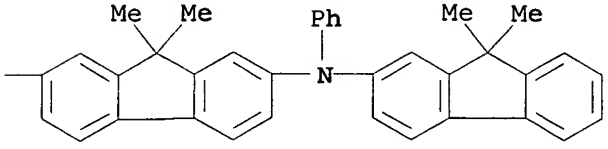


RN 607739-84-4 HCAPLUS
CN [2,2':7',2''-Ter-9H-fluorene]-7,7''-diamine, N,N'-bis(9,9-dimethyl-9H-fluoren-2-yl)-9,9,9',9',9'',9''-hexamethyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



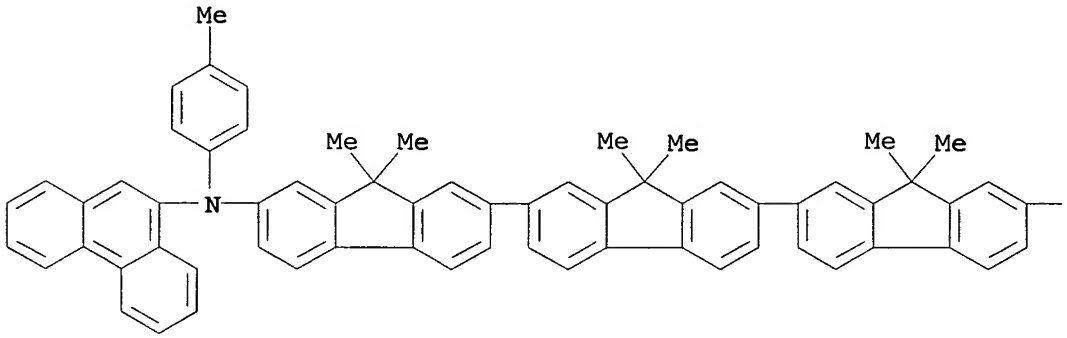
IT **607739-65-1P**

(organic fluorescent material; oligofluorenylene compds. for organic **light-emitting** devices)

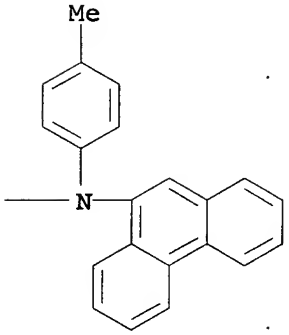
RN 607739-65-1 HCAPLUS

CN [2,2':7',2''-Ter-9H-fluorene]-7,7''-diamine, 9,9,9',9',9'',9''-hexamethyl-N,N'-bis(4-methylphenyl)-N,N'-di-9-phenanthrenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C07C211-61
ICS H01L051-30

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 76

ST oligofluorenylene org **light emitting** device

IT Fluorescent substances
(oligofluorenylene compds. for organic **light-emitting** devices)

IT Electroluminescent devices
(organic; oligofluorenylene compds. for organic **light-emitting** devices)

IT 12798-95-7 50926-11-9, Indium tin oxide
(electrode; oligofluorenylene compds. for organic **light-emitting** devices)

IT 1662-01-7, Bathophenanthroline 2085-33-8, AlQ3
(electron carrier; oligofluorenylene compds. for organic **light-emitting** devices)

IT **361486-60-4**

(hole carrier; oligofluorenylene compds. for organic **light -emitting** devices)
IT **607739-68-4P**
(oligofluorenylene compds. for organic **light-emitting** devices)
IT 569343-08-4P 607739-64-0P 607739-66-2P 607739-67-3P
(oligofluorenylene compds. for organic **light-emitting** devices)
IT 7726-95-6, Bromine, reactions 15424-38-1 79918-21-1
144981-86-2, 2,7-Diiodo-9,9-dimethylfluorene 333432-28-3
(oligofluorenylene compds. for organic **light-emitting** devices)
IT **607739-69-5 607739-70-8 607739-71-9**
607739-72-0 607739-73-1 607739-74-2
607739-75-3 607739-76-4 607739-77-5
607739-78-6 607739-79-7 607739-80-0
607739-81-1 607739-82-2 **607739-83-3**
607739-84-4 608130-98-9
(organic fluorescent material; oligofluorenylene compds. for organic **light-emitting** devices)
IT **607739-65-1P**
(organic fluorescent material; oligofluorenylene compds. for organic **light-emitting** devices)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 15 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:759350 HCAPLUS
DOCUMENT NUMBER: 140:171902
TITLE: Energy-transfer-type polymeric light-emitting material
INVENTOR(S): Wang, Lixiang; Min, Changchun; Tu, Guoli
PATENT ASSIGNEE(S): Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 13 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1381543	A	20021127	CN 2002-116046	2002 0428
			<--	
PRIORITY APPLN. INFO.:			CN 2002-116046	2002 0428
			<--	

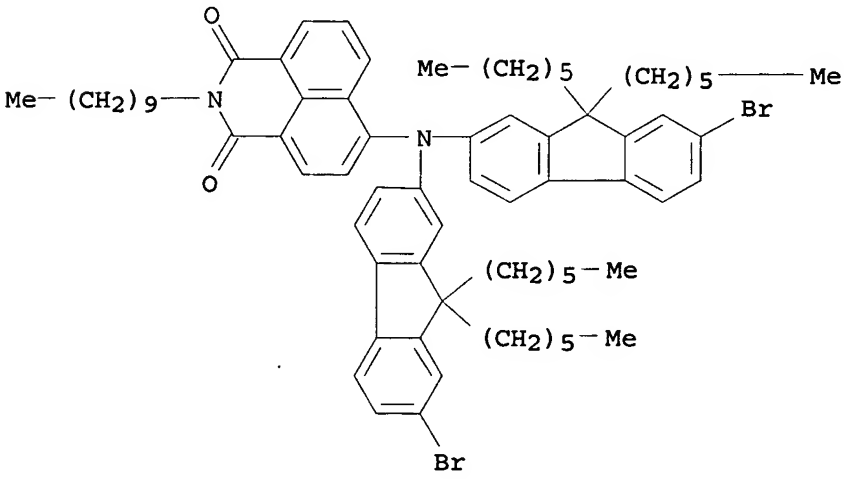
AB Title luminescent polymers are synthesized by N-alkylation of 9-alkyl-4-amino-1,8-naphthalimide with dibromoarene in 1,3-dimethyl-3,4,5,6-tetrahydro-2-pyrimidone solvent in the presence of K2CO3, CuI, and 18-crown-6 at 140-220° for 24-48 h under bubbling N2; and then Suzuki reaction with dibromo-aromatic monomer (such as 9,9-dioctyl-2,7-dibromofluorene,

1,4-dibromobenzene, 2,5-dihexyloxy-1,4-dibromobenzene, 9,10-dibromoanthracene, 9-hexyl-2,7-dibromocarbazole, or 4,4'-dibromobiphenyl) and arylene diboronate (such as 2,5-dihexyloxy-1,4- benzenediboronic acid or 1,4-benzenediboronic acid bis(trimethylene) ester) in THF in the presence of K2CO3 and tetra(triphenylphosphinato)Pd under refluxing for 3-5 d. The conjugated length and forbidden band of the light- emitting material may be regulated by controlling the content of naphthalimide derivative unit.

IT **654675-55-5P**
(preparation of energy-transfer-type **light-emitting** polymers)

RN 654675-55-5 HCAPLUS

CN 1H-Benz[de]isoquinoline-1,3(2H)-dione, 6-[bis(7-bromo-9,9-dihexyl-9H-fluoren-2-yl)amino]-2-decyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 37

IT 654675-30-6P **654675-55-5P** 654675-62-4P 654675-70-4P
(preparation of energy-transfer-type **light-emitting** polymers)

L37 ANSWER 16 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:488876 HCAPLUS

DOCUMENT NUMBER: 139:60191

TITLE: Organic electroluminescence devices with high luminescence efficiency

INVENTOR(S): Nakatsuka, Masakatsu; Shimamura, Takehiko; Ishida, Tsutomu; Tanabe, Yoshimitsu; Totani, Yoshiyuki

PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

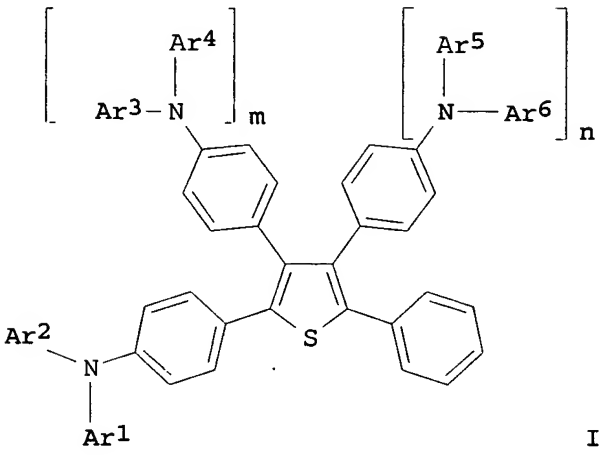
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003178881	A2	20030627	JP 2001-375493	2001 1210
			<--	
PRIORITY APPLN. INFO.:			JP 2001-375493	2001 1210
			<--	

OTHER SOURCE(S): MARPAT 139:60191
GI



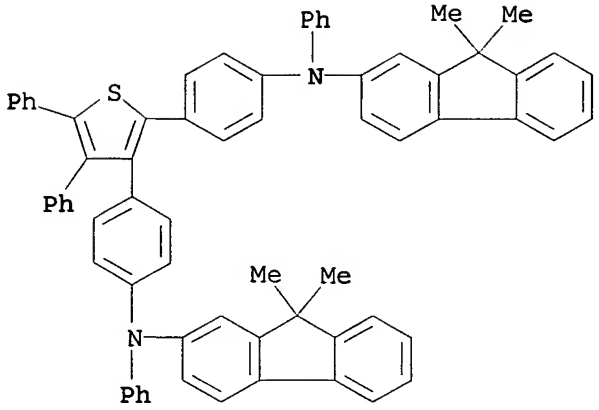
I

AB The device has ≥1 layers containing arylaminothiophenes I (Ar1-6 = aryl; m, n = 0, 1; m ≠ n; Ar1 and Ar2, Ar3 and Ar4, Ar5 and Ar6 maybe forming a ring with N) between a pair of electrodes. The layer containing I may be a hole transport layer or a luminescence layer.

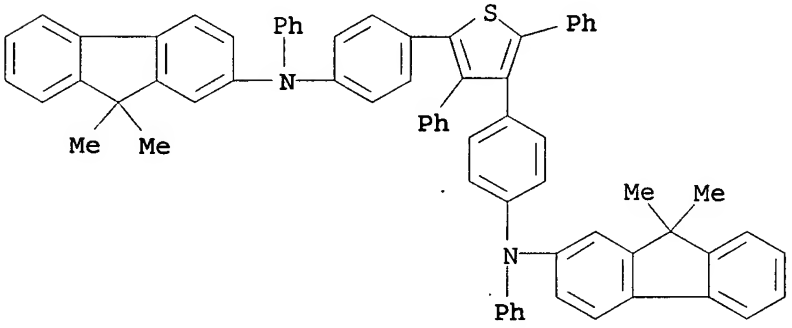
IT **547755-37-3 547755-46-4 547755-48-6**
(hole transport layer containing; arylaminophenylthiophenes for organic electroluminescence devices with high **luminescence** efficiency)

RN 547755-37-3 HCAPLUS

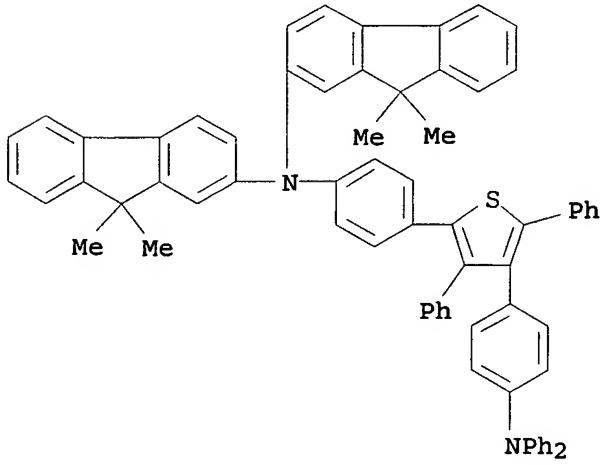
CN 9H-Fluoren-2-amine, N,N'-[(4,5-diphenyl-2,3-thiophenediyl)di-4,1-phenylene]bis[9,9-dimethyl-N-phenyl- (9CI) (CA INDEX NAME)



RN 547755-46-4 HCAPLUS
CN 9H-Fluoren-2-amine, N,N'-[(3,5-diphenyl-2,4-thiophenediyl)di-4,1-phenylene]bis[9,9-dimethyl-N-phenyl- (9CI) (CA INDEX NAME)



RN 547755-48-6 HCAPLUS
CN 9H-Fluoren-2-amine, N-(9,9-dimethyl-9H-fluoren-2-yl)-N-[4-[4-[4-(diphenylamino)phenyl]-3,5-diphenyl-2-thienyl]phenyl]-9,9-dimethyl- (9CI) (CA INDEX NAME)

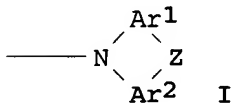


IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
IT 547755-25-9 547755-26-0 547755-27-1 547755-28-2
547755-29-3 547755-30-6 547755-31-7 547755-32-8
547755-33-9 547755-34-0 547755-35-1 547755-36-2
547755-37-3 547755-38-4 547755-39-5 547755-40-8
547755-41-9 547755-42-0 547755-43-1 547755-44-2
547755-45-3 **547755-46-4 547755-48-6**
547755-49-7 547755-50-0 547755-51-1 547755-52-2
547755-53-3 547755-54-4 547755-55-5
(hole transport layer containing; arylaminophenylthiophenes for organic electroluminescence devices with high **luminescence** efficiency)

L37 ANSWER 17 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:349283 HCAPLUS
DOCUMENT NUMBER: 138:376099
TITLE: Organic electroluminescent devices of high brightness and luminescent efficiency and anthracene derivatives therefor
INVENTOR(S): Ishida, Tsutomu; Shimamura, Takehiko; Tanabe, Yoshimitsu; Totani, Yoshiyuki; Nakatsuka, Masakatsu
PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 99 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003128651	A2	20030508	JP 2001-317783 <--	2001 1016
PRIORITY APPLN. INFO.:			JP 2001-317783 <--	2001 1016

OTHER SOURCE(S): MARPAT 138:376099
GI



I

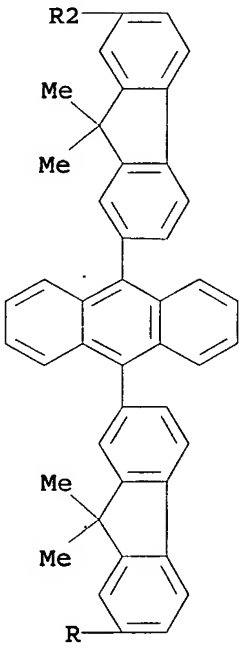
AB The anthracene derivs. have direct bonds between anthracene ring and fluorene ring and bear group I (Ar1, Ar2 = arylene; Z = bridging group).
IT **522615-57-2P 522615-58-3P 522615-59-4P**

522615-60-7P 522615-61-8P 522615-62-9P
522615-63-0P 522615-67-4P 522615-68-5P
522615-69-6P 522615-70-9P 522615-71-0P
522615-72-1P 522615-73-2P 522615-74-3P
522615-75-4P 522615-76-5P 522615-80-1P
522615-81-2P 522615-82-3P 522615-83-4P
522615-84-5P 522615-85-6P 522615-86-7P
522615-87-8P 522615-88-9P 522615-89-0P
522615-90-3P 522615-91-4P 522615-92-5P
522615-93-6P 522615-94-7P 522615-95-8P
522615-96-9P 522615-97-0P 522615-98-1P
(spirocyclic compds. containing direct bond between anthracene and fluorene rings for organic **LED** of high **luminescent** efficiency)

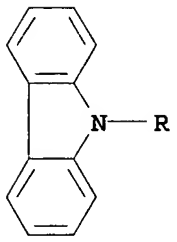
RN 522615-57-2 HCAPLUS

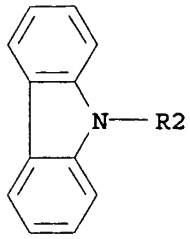
CN 9H-Carbazole, 9,9'-[9,10-anthracenediylbis(9,9-dimethyl-9H-fluorene-7,2-diyl)]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



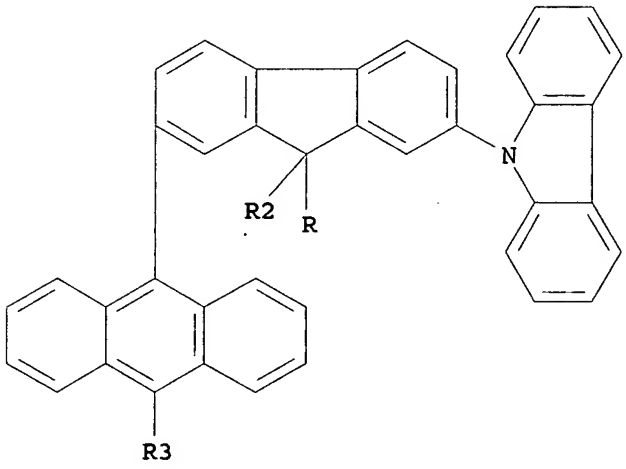
PAGE 2-A



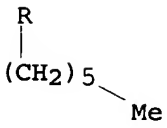


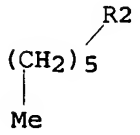
RN 522615-58-3 HCAPLUS
CN 9H-Carbazole, 9,9'-[9,10-anthracenediylbis(9,9-dihexyl-9H-fluorene-7,2-diyl)]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

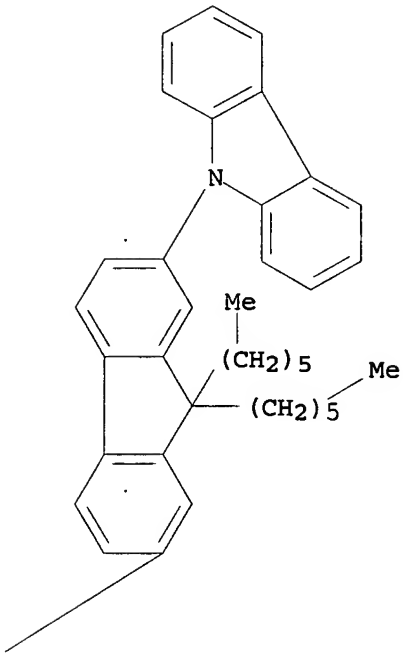


PAGE 2-A

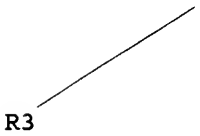




PAGE 3-A

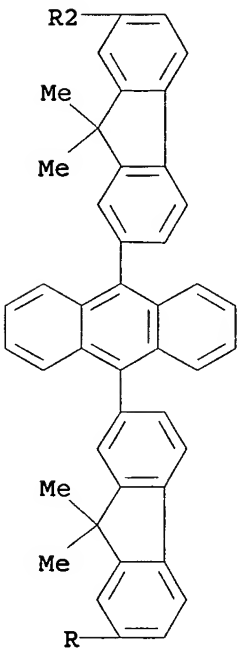


PAGE 4-A

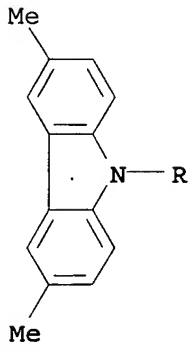


RN 522615-59-4 HCAPLUS
CN 9H-Carbazole, 9,9'-[9,10-anthracenediylbis(9,9-dimethyl-9H-fluorene-7,2-diyl)]bis[3,6-dimethyl- (9CI) (CA INDEX NAME)

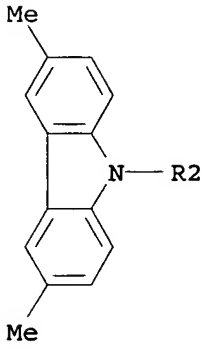
PAGE 1-A



PAGE 2-A

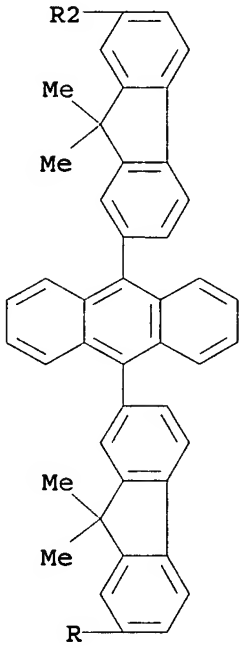


PAGE 3-A

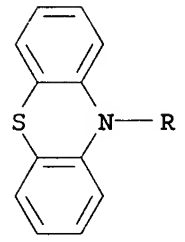


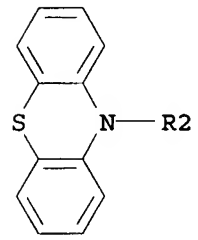
RN 522615-60-7 HCAPLUS
CN 10H-Phenothiazine, 10,10'-[9,10-anthracenediylbis(9,9-dimethyl-9H-fluorene-7,2-diyl)]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



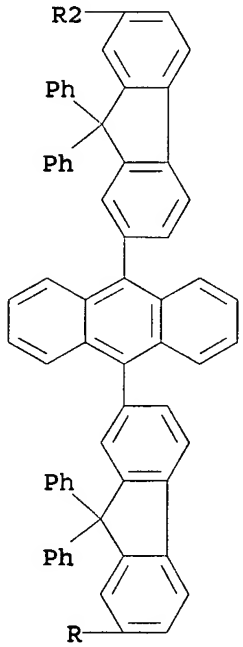
PAGE 2-A



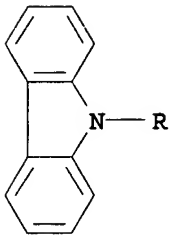


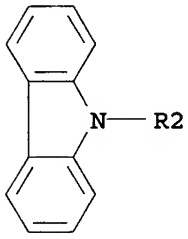
RN 522615-61-8 HCAPLUS
CN 9H-Carbazole, 9,9'-[9,10-anthracenediylbis(9,9-diphenyl-9H-fluorene-7,2-diyl)]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



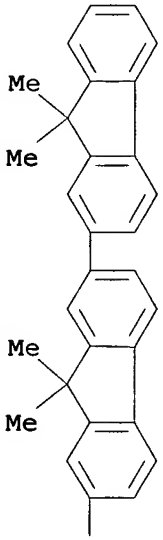
PAGE 2-A



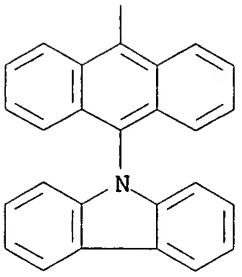


RN 522615-62-9 HCAPLUS
CN 9H-Carbazole, 9-[10-(9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl)-9-anthracenyl]- (9CI) (CA INDEX NAME)

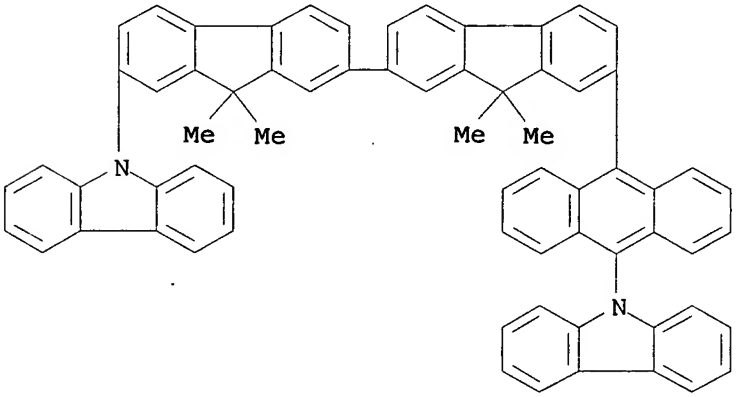
PAGE 1-A



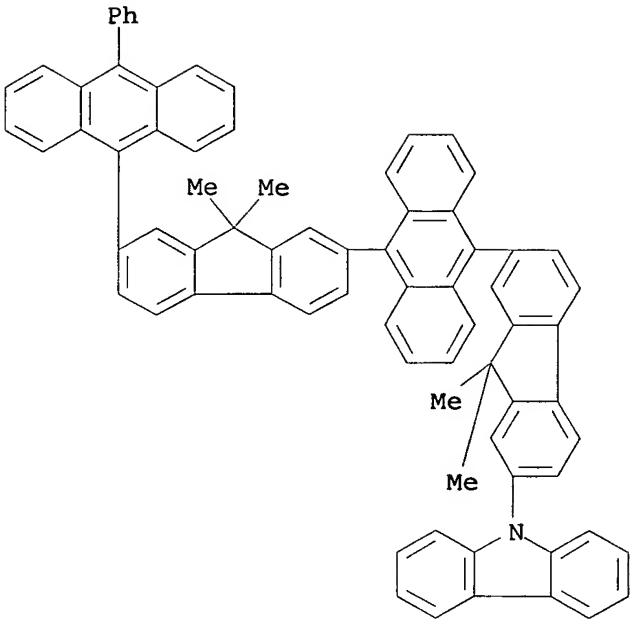
PAGE 2-A



RN 522615-63-0 HCAPLUS
CN 9H-Carbazole, 9-[7'-[10-(9H-carbazol-9-yl)-9-anthracenyl]-9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl]- (9CI) (CA INDEX NAME)

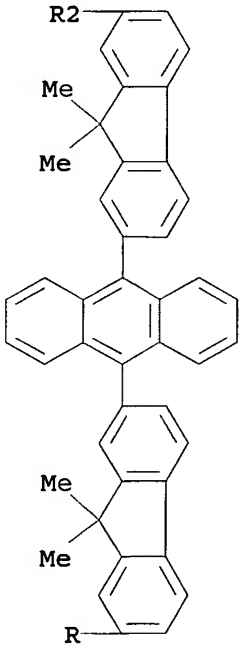


RN 522615-67-4 HCAPLUS
CN 9H-Carbazole, 9-[7-[10-[9,9-dimethyl-7-(10-phenyl-9-anthracenyl)-9H-fluoren-2-yl]-9-anthracenyl]-9,9-dimethyl-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)

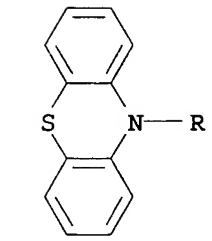


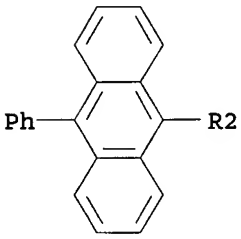
RN 522615-68-5 HCAPLUS
CN 10H-Phenothiazine, 10-[7-[10-[9,9-dimethyl-7-(10-phenyl-9-anthracenyl)-9H-fluoren-2-yl]-9-anthracenyl]-9,9-dimethyl-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)

PAGE 1-A



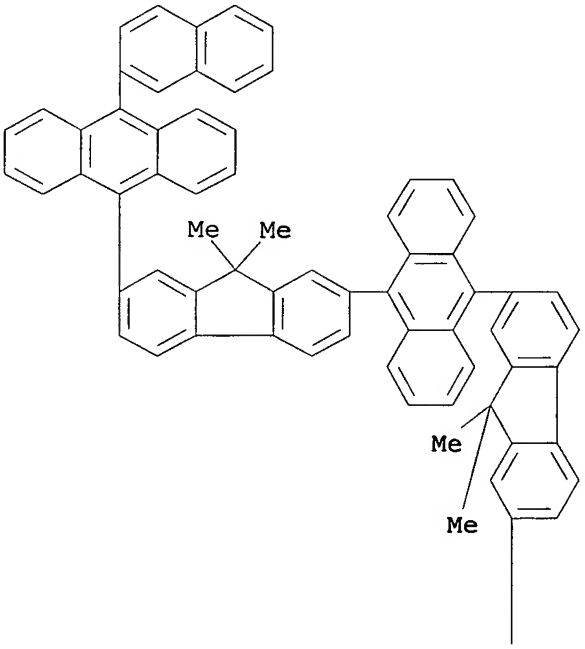
PAGE 2-A



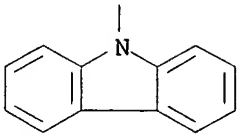


RN 522615-69-6 HCAPLUS
CN 9H-Carbazole, 9-[7-[10-[9,9-dimethyl-7-[10-(2-naphthalenyl)-9-anthracenyl]-9H-fluoren-2-yl]-9-anthracenyl]-9,9-dimethyl-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)

PAGE 1-A

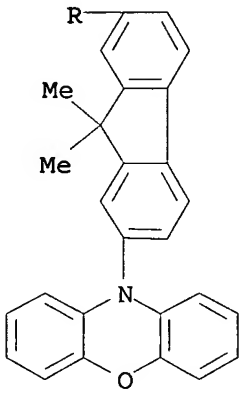


PAGE 2-A

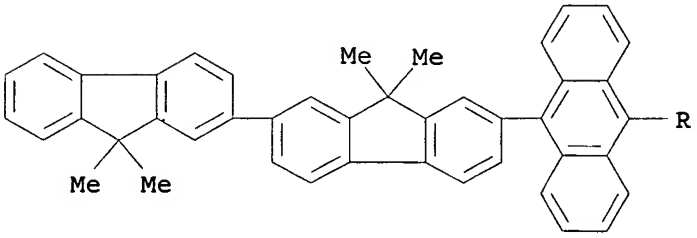


RN 522615-70-9 HCAPLUS
CN 10H-Phenoxazine, 10-[9,9-dimethyl-7-[10-(9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl)-9-anthracenyl]-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)

PAGE 1-A

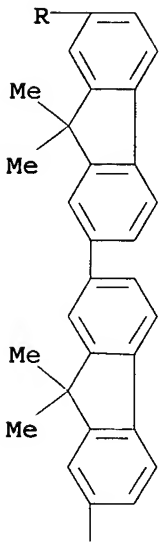


PAGE 2-A

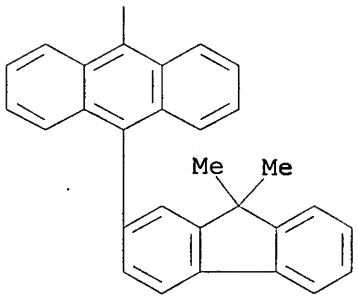


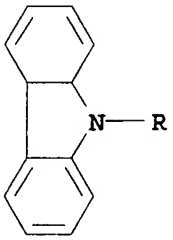
RN 522615-71-0 HCAPLUS
CN 9H-Carbazole, 9-[7'-[10-(9,9-dimethyl-9H-fluoren-2-yl)-9-anthracenyl]-9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl]-4a,9a-dihydro- (9CI) (CA INDEX NAME)

PAGE 1-A

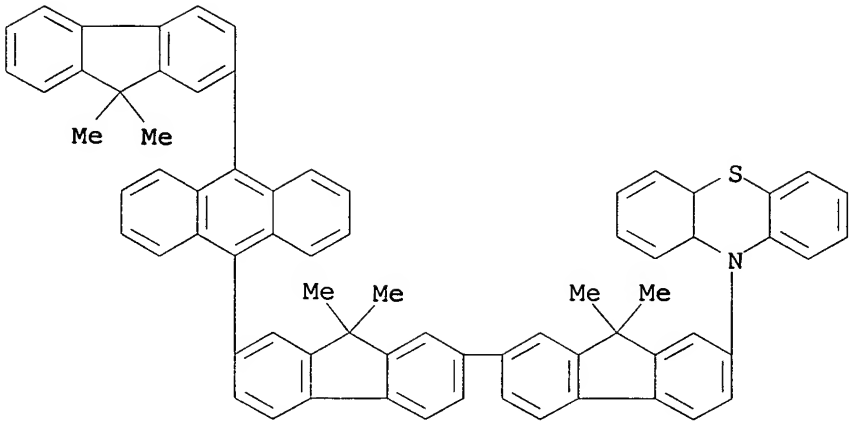


PAGE 2-A



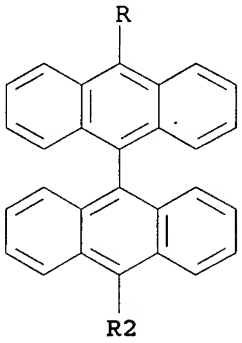


RN 522615-72-1 HCAPLUS
CN 10H-Phenothiazine, 10-[7'-[10-(9,9-dimethyl-9H-fluoren-2-yl)-9-anthracenyl]-9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl]-4a,10a-dihydro- (9CI) (CA INDEX NAME)

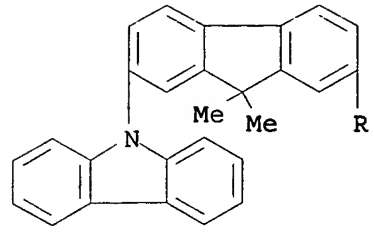


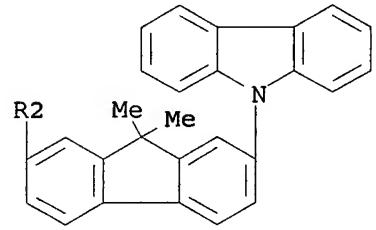
RN 522615-73-2 HCAPLUS
CN 9H-Carbazole, 9,9'-[[9,9'-bianthracene]-10,10'-diylbis(9,9-dimethyl-9H-fluorene-7,2-diyl)]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

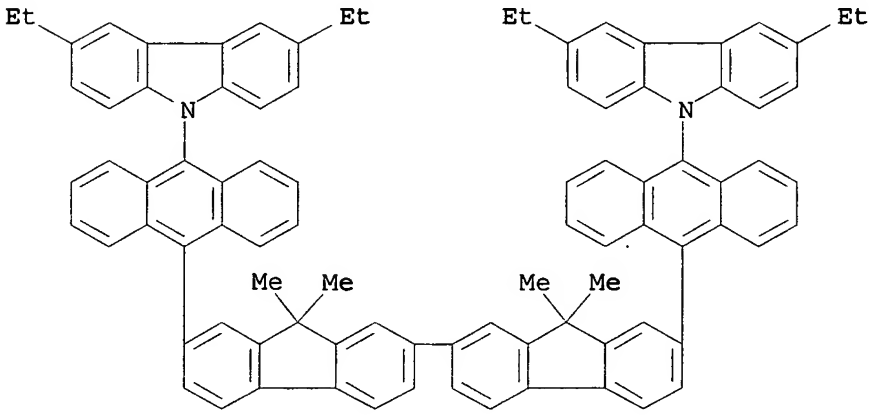


PAGE 2-A

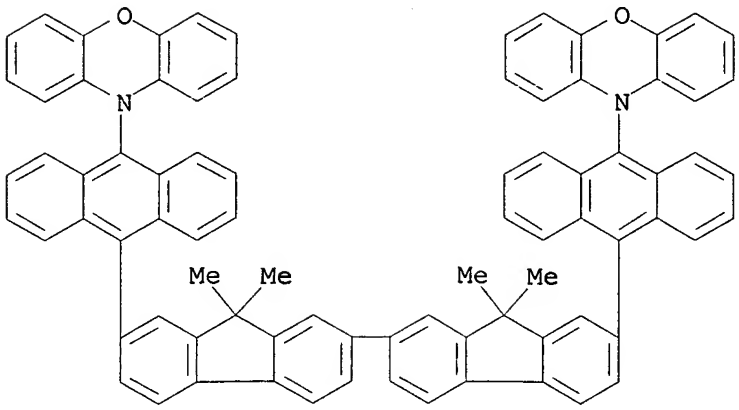




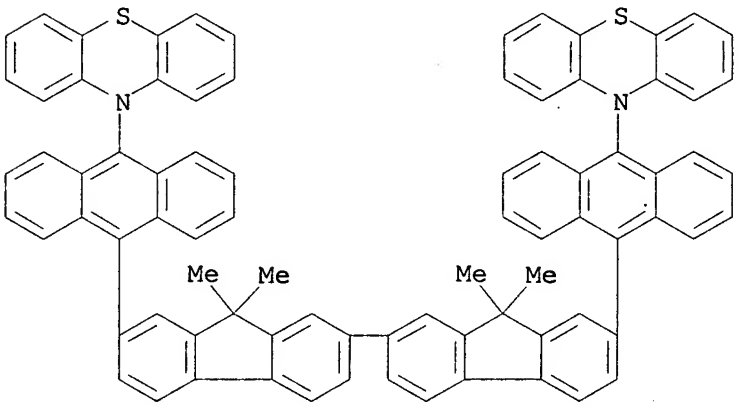
RN 522615-74-3 HCAPLUS
CN 9H-Carbazole, 9,9'-[(9,9,9',9'-tetramethyl[2,2'-bi-9H-fluorene]-7,7'-diyl)di-10,9-anthracenediyl]bis[3,6-diethyl- (9CI) (CA INDEX NAME)



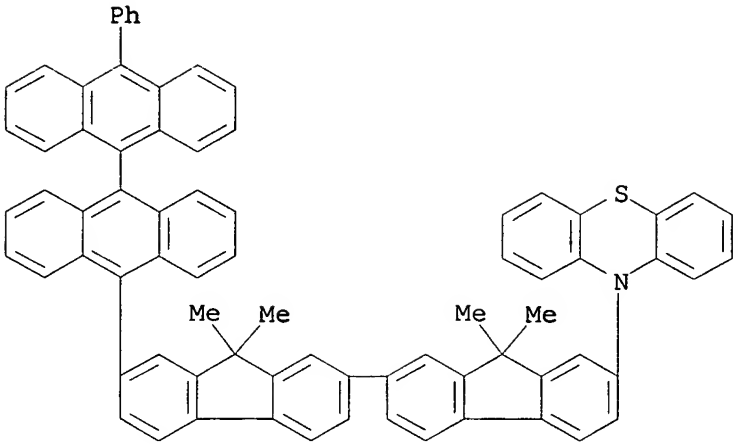
RN 522615-75-4 HCAPLUS
CN 10H-Phenoxazine, 10,10'-[(9,9,9',9'-tetramethyl[2,2'-bi-9H-fluorene]-7,7'-diyl)di-10,9-anthracenediyl]bis- (9CI) (CA INDEX NAME)



RN 522615-76-5 HCAPLUS
CN 10H-Phenothiazine, 10,10'-[(9,9,9',9'-tetramethyl[2,2'-bi-9H-fluorene]-7,7'-diyl)di-10,9-anthracenediyl]bis- (9CI) (CA INDEX NAME)

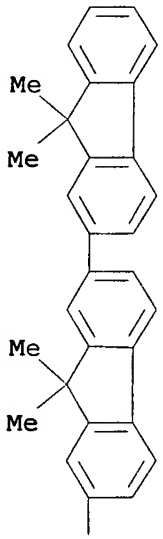


RN 522615-80-1 HCAPLUS
CN 10H-Phenothiazine, 10-[9,9,9',9'-tetramethyl-7'-(10'-phenyl[9,9'-bianthracen]-10-yl)[2,2'-bi-9H-fluoren]-7-yl]- (9CI) (CA INDEX NAME)

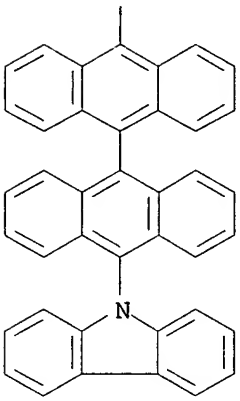


RN 522615-81-2 HCAPLUS
CN 9H-Carbazole, 9-[10'-(9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl)[9,9'-bianthracen]-10-yl]- (9CI) (CA INDEX NAME)

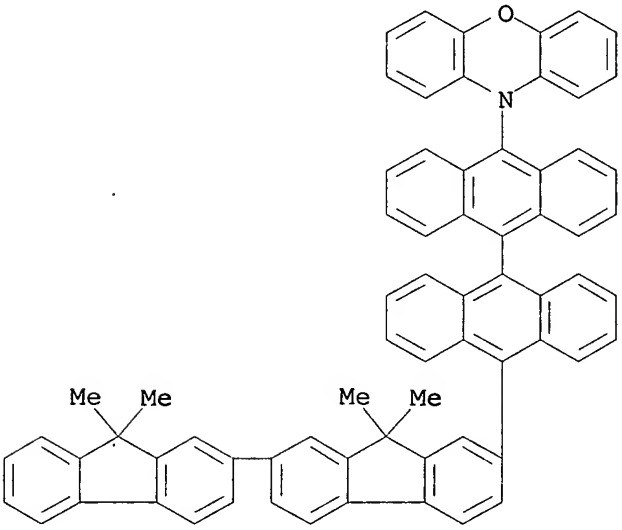
PAGE 1-A



PAGE 2-A

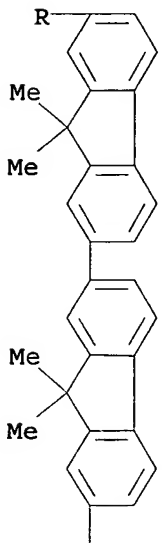


RN 522615-82-3 HCAPLUS
CN 10H-Phenoxazine, 10-[10'-(9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl)[9,9'-bianthracen]-10-yl]- (9CI) (CA INDEX NAME)

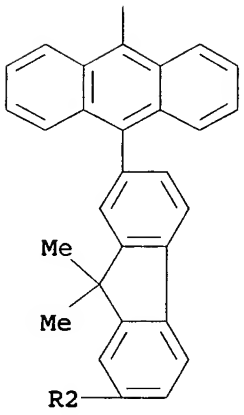


RN 522615-83-4 HCAPLUS
CN 9H-Carbazole, 9-[9,9-dimethyl-7-[10-[9,9,9',9'-tetramethyl-7'-[10-(4-methylphenyl)-9-anthracenyl][2,2'-bi-9H-fluoren]-7-yl]-9-anthracenyl]-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)

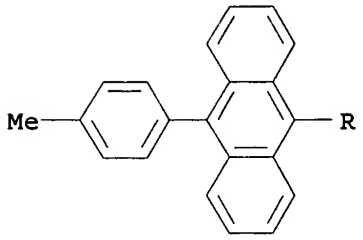
PAGE 1-A

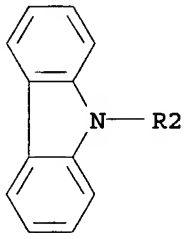


PAGE 2-A

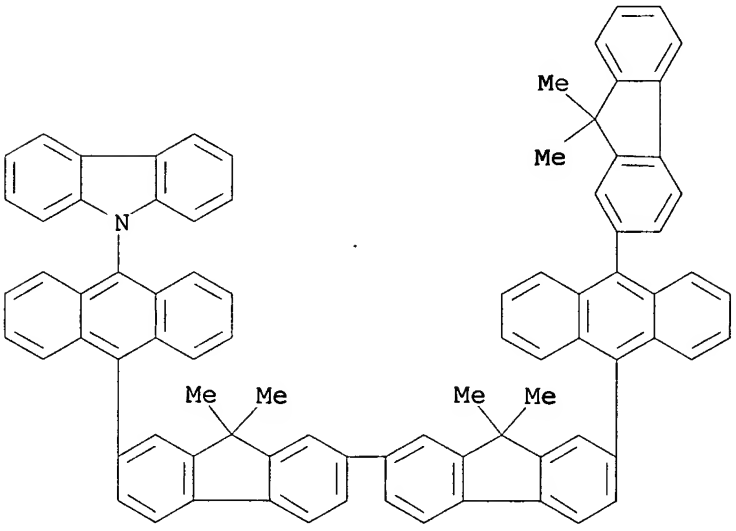


PAGE 3-A



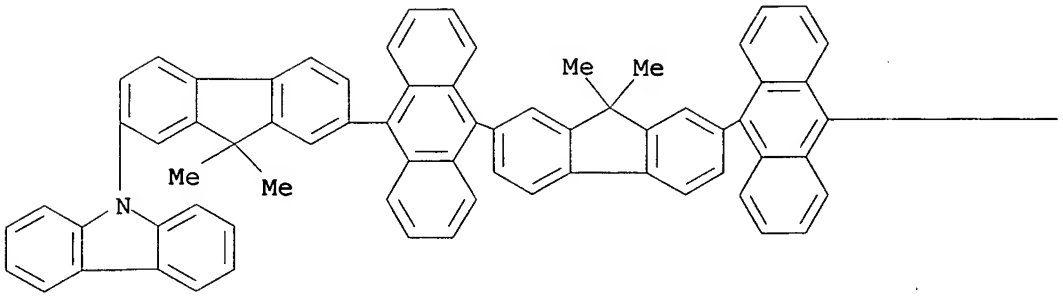


RN 522615-84-5 HCAPLUS
CN 9H-Carbazole, 9-[10-[7'-[10-(9,9-dimethyl-9H-fluoren-2-yl)-9-anthracenyl]-9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl]-9-anthracenyl]- (9CI) (CA INDEX NAME)

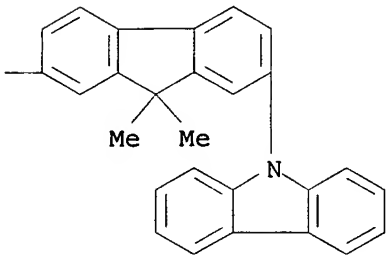


RN 522615-85-6 HCAPLUS
CN 9H-Carbazole, 9,9'-[(9,9-dimethyl-9H-fluorene-2,7-diyl)bis[10,9-anthracenediyl(9,9-dimethyl-9H-fluorene-7,2-diyl)]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

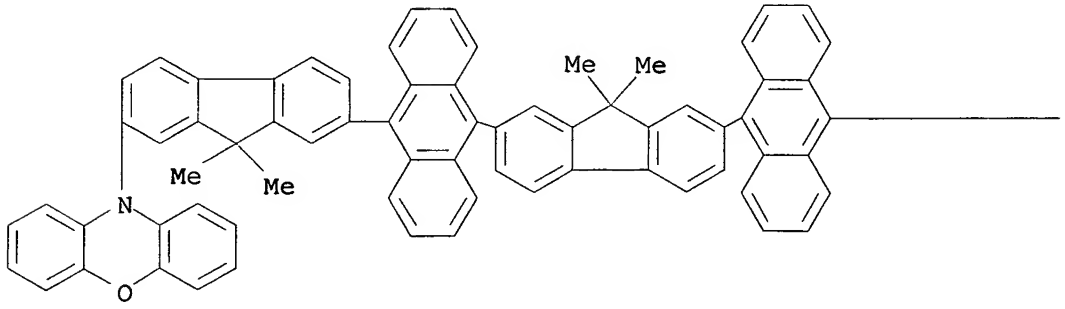


PAGE 1-B

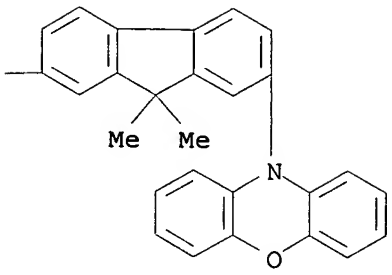


RN 522615-86-7 HCAPLUS
CN 10H-Phenoxazine, 10,10'-[(9,9-dimethyl-9H-fluorene-2,7-diyl)bis[10,9-anthracenediyl(9,9-dimethyl-9H-fluorene-7,2-diyl)]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

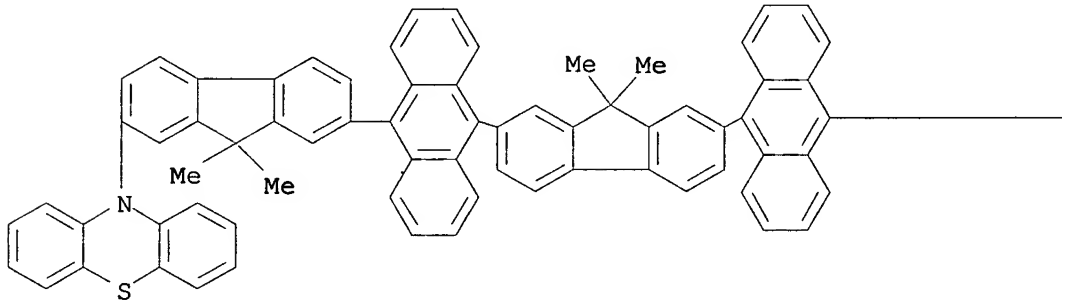


PAGE 1-B

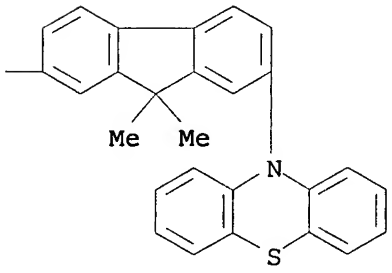


RN 522615-87-8 HCAPLUS
CN 10H-Phenothiazine, 10,10'-[(9,9-dimethyl-9H-fluorene-2,7-diyl)bis[10,9-anthracenediyl(9,9-dimethyl-9H-fluorene-7,2-diyl)]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

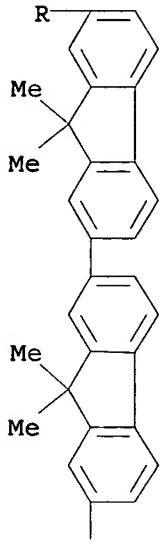


PAGE 1-B

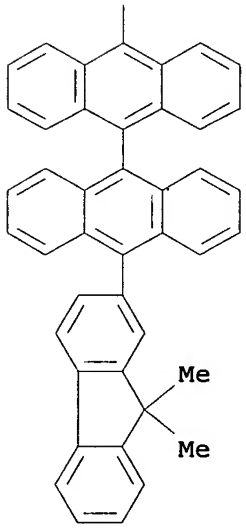


RN 522615-88-9 HCAPLUS
CN 9H-Carbazole, 9-[7'-[10'-(9,9-dimethyl-9H-fluoren-2-yl)[9,9'-bianthracen]-10-yl]-9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl]- (9CI) (CA INDEX NAME)

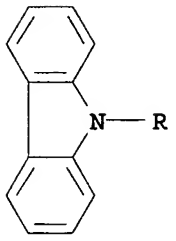
PAGE 1-A



PAGE 2-A

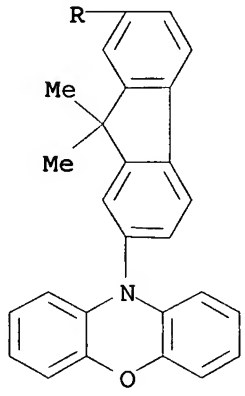


PAGE 3-A

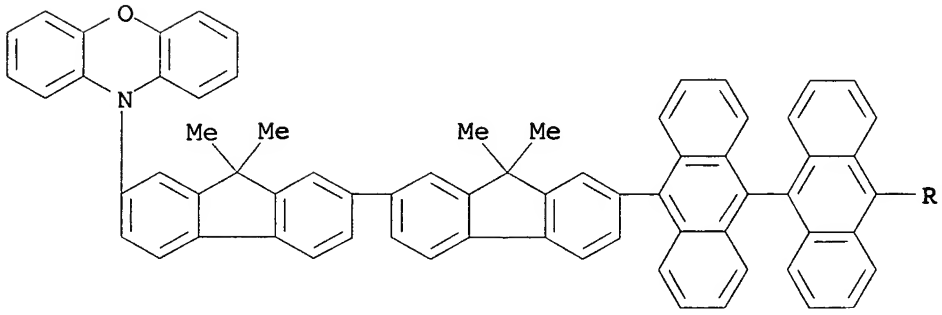


RN 522615-89-0 HCAPLUS
CN 10H-Phenoxazine, 10-[7'-[10'-[9,9-dimethyl-7-(10H-phenoxazin-10-yl)-9H-fluoren-2-yl][9,9'-bianthracen]-10-yl]-9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl]- (9CI) (CA INDEX NAME)

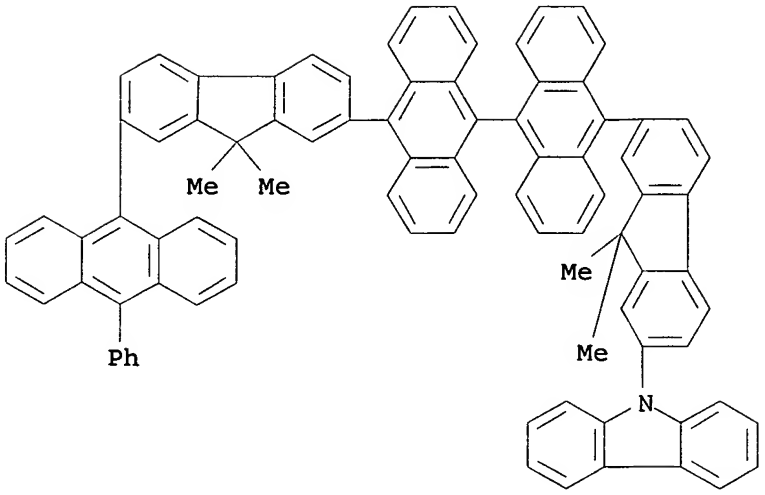
PAGE 1-A



PAGE 2-A

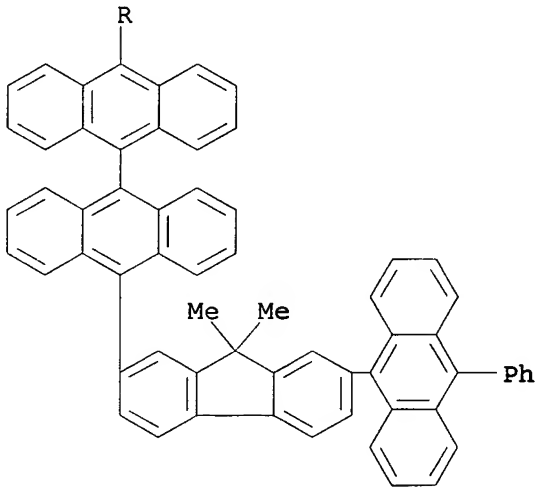


RN 522615-90-3 HCAPLUS
CN 9H-Carbazole, 9-[7-[10'-[9,9-dimethyl-7-(10-phenyl-9-anthracenyl)-9H-fluoren-2-yl][9,9'-bianthracen]-10-yl]-9,9-dimethyl-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)

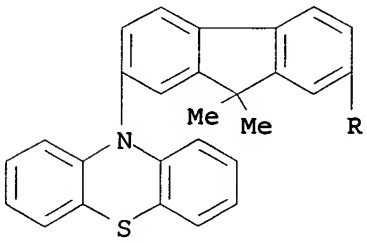


RN 522615-91-4 HCAPLUS
CN 10H-Phenothiazine, 10-[7-[10'-[9,9-dimethyl-7-(10-phenyl-9-anthracenyl)-9H-fluoren-2-yl][9,9'-bianthracen]-10-yl]-9,9-dimethyl-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)

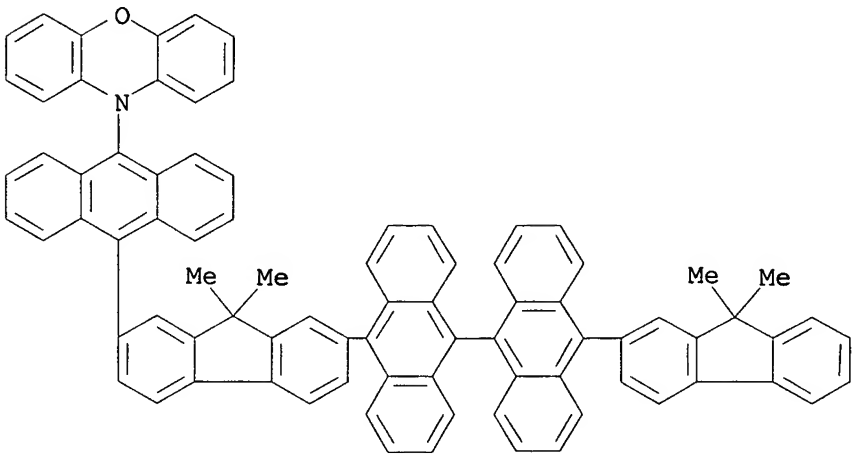
PAGE 1-A



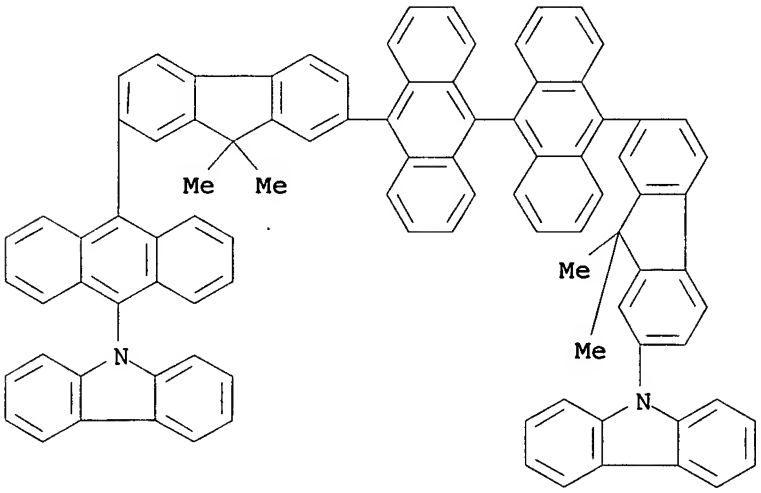
PAGE 2-A



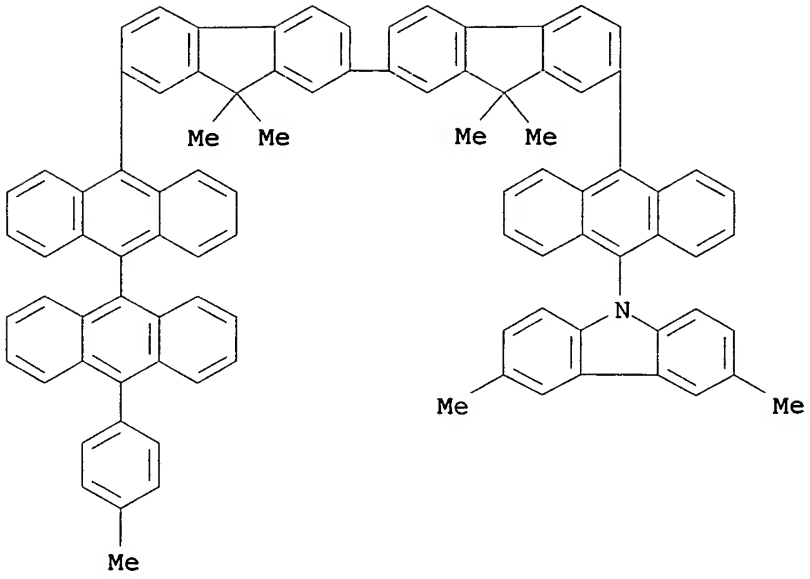
RN 522615-92-5 HCAPLUS
CN 10H-Phenoxazine, 10-[10-[7-[10'-(9,9-dimethyl-9H-fluoren-2-yl)[9,9'-bianthracen]-10-yl]-9,9-dimethyl-9H-fluoren-2-yl]-9-anthracenyl]- (9CI) (CA INDEX NAME)



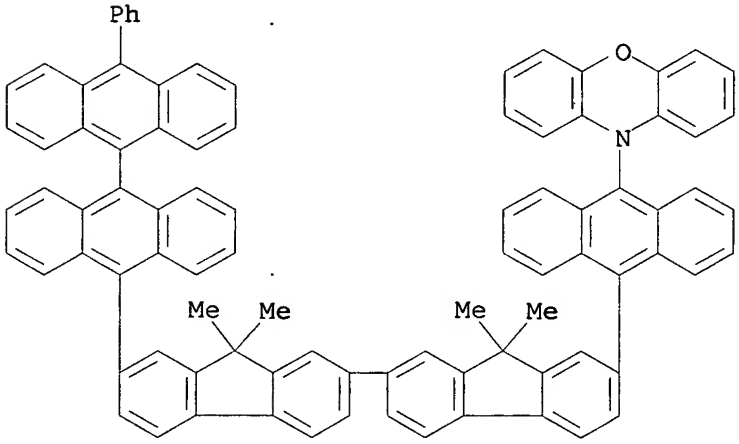
RN 522615-93-6 HCAPLUS
CN 9H-Carbazole, 9-[7-[10'-[7-[10-(9H-carbazol-9-yl)-9-anthracenyl]-9,9-dimethyl-9H-fluoren-2-yl][9,9'-bianthracen]-10-yl]-9,9-dimethyl-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)



RN 522615-94-7 HCAPLUS
CN 9H-Carbazole, 3,6-dimethyl-9-[10-[9,9,9',9'-tetramethyl-7'-[10'-(4-methylphenyl)[9,9'-bianthracen]-10-yl][2,2'-bi-9H-fluoren]-7-yl]-9-anthracenyl]- (9CI) (CA INDEX NAME)

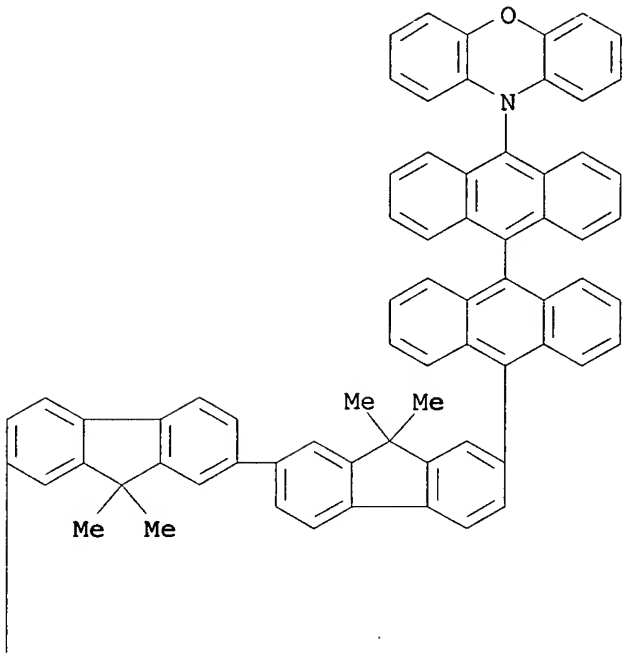


RN 522615-95-8 HCAPLUS
CN 10H-Phenoxazine, 10-[10-[9,9,9',9'-tetramethyl-7'-(10'-phenyl[9,9'-bianthracen]-10-yl)[2,2'-bi-9H-fluoren]-7-yl]-9-anthracenyl]-(9CI) (CA INDEX NAME)

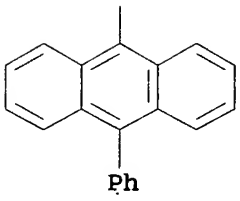


RN 522615-96-9 HCAPLUS
CN 10H-Phenoxazine, 10-[10'-[9,9,9',9'-tetramethyl-7'-(10-phenyl-9-anthracenyl)[2,2'-bi-9H-fluoren]-7-yl][9,9'-bianthracen]-10-yl]-(9CI) (CA INDEX NAME)

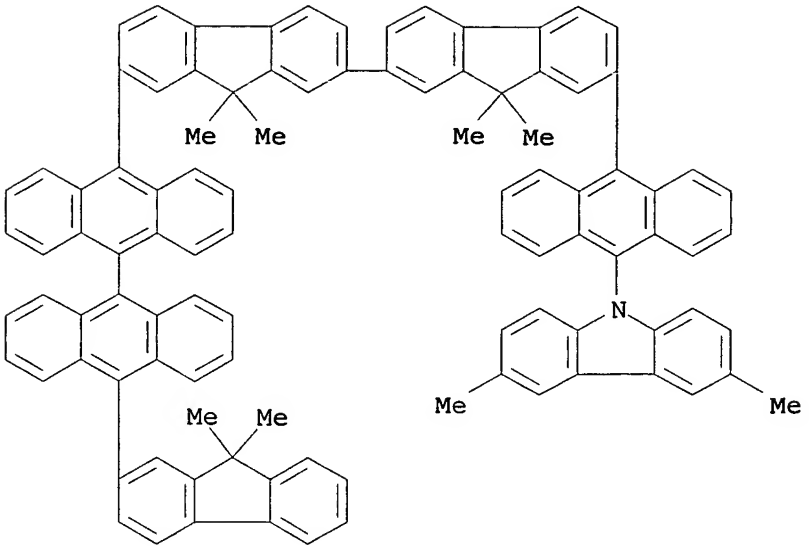
PAGE 1-A



PAGE 2-A

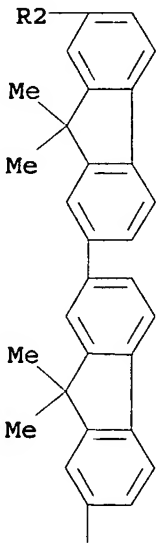


RN 522615-97-0 HCAPLUS
CN 9H-Carbazole, 9-[10-[7'-[10'-(9,9-dimethyl-9H-fluoren-2-yl)[9,9'-bianthracen]-10-yl]-9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl]-9-anthracenyl]-3,6-dimethyl- (9CI) (CA INDEX NAME)

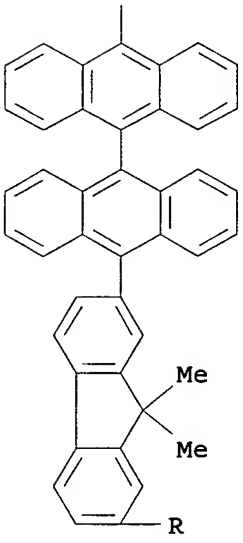


RN 522615-98-1 HCAPLUS
CN 9H-Carbazole, 9-[9,9-dimethyl-7-[10'-[9,9,9',9'-tetramethyl-7'-(10-phenyl-9-anthracenyl)[2,2'-bi-9H-fluoren]-7-yl][9,9'-bianthracen]-10-yl]-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)

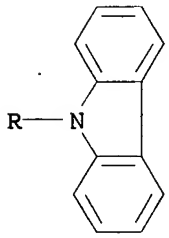
PAGE 1-A

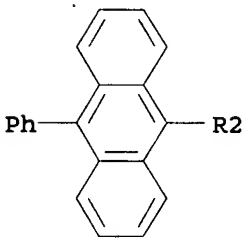


PAGE 2-A



PAGE 3-A

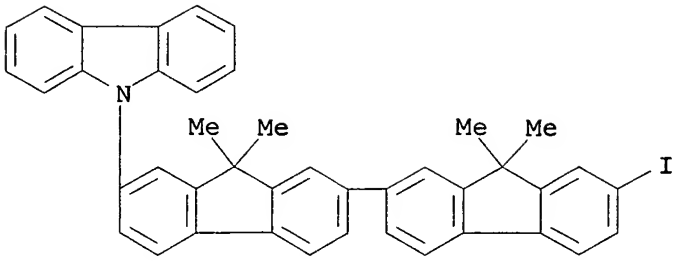




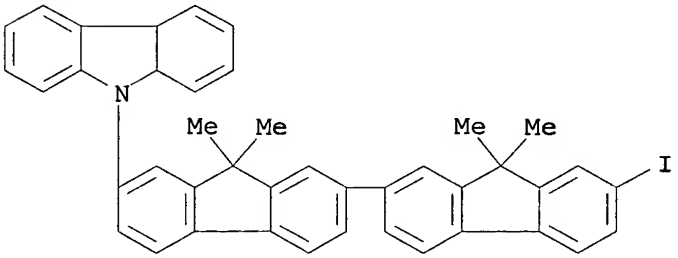
IT **522616-03-1 522616-07-5 522616-08-6**
522616-13-3 522616-19-9 522616-24-6
522616-26-8 522616-27-9
(spirocyclic compds. containing direct bond between anthracene and fluorene rings for organic **LED** of high **luminescent** efficiency)

RN 522616-03-1 HCAPLUS

CN 9H-Carbazole, 9-(7'-iodo-9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl)- (9CI) (CA INDEX NAME)

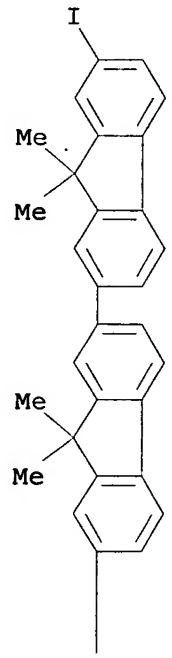


RN 522616-07-5 HCAPLUS
CN 9H-Carbazole, 4a,9a-dihydro-9-(7'-iodo-9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl)- (9CI) (CA INDEX NAME)

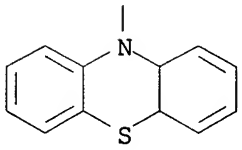


RN 522616-08-6 HCAPLUS
CN 10H-Phenothiazine, 4a,10a-dihydro-10-(7'-iodo-9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl)- (9CI) (CA INDEX NAME)

PAGE 1-A

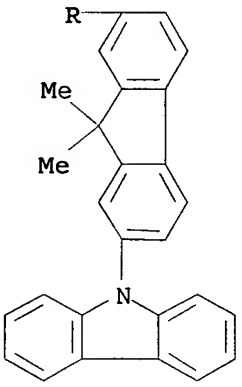


PAGE 2-A

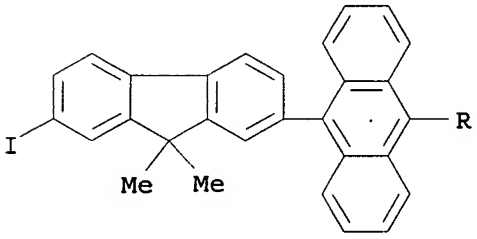


RN 522616-13-3 HCAPLUS
CN 9H-Carbazole, 9-[7-[10-(7-iodo-9,9-dimethyl-9H-fluoren-2-yl)-9-anthracenyl]-9,9-dimethyl-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)

PAGE 1-A

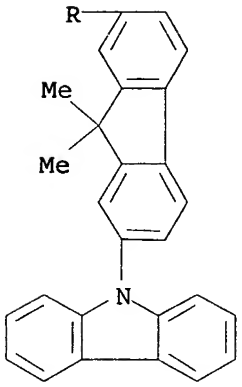


PAGE 2-A

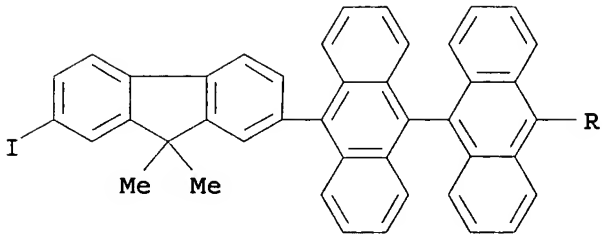


RN 522616-19-9 HCAPLUS
CN 9H-Carbazole, 9-[7-[10'-(7-iodo-9,9-dimethyl-9H-fluoren-2-yl)[9,9'-bianthracen]-10-yl]-9,9-dimethyl-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)

PAGE 1-A

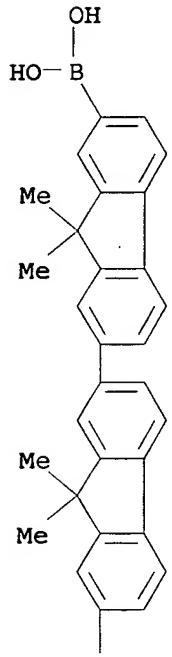


PAGE 2-A

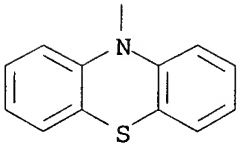


RN 522616-24-6 HCAPLUS
CN Boronic acid, [9,9,9',9'-tetramethyl-7'-(10H-phenothiazin-10-yl)[2,2'-bi-9H-fluoren]-7-yl]- (9CI) (CA INDEX NAME)

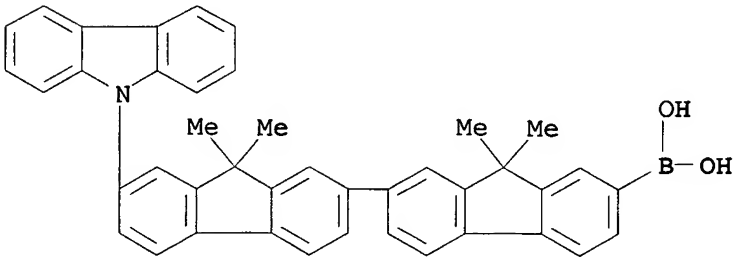
PAGE 1-A



PAGE 2-A

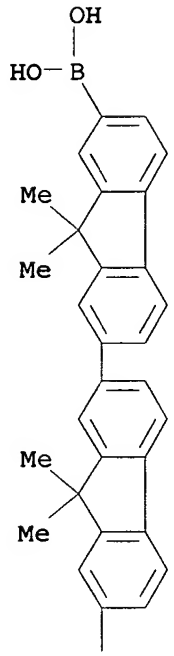


RN 522616-26-8 HCAPLUS
CN Boronic acid, [7'-(9H-carbazol-9-yl)-9,9,9',9'-tetramethyl[2,2'-bi-9H-fluoren]-7-yl]- (9CI) (CA INDEX NAME)

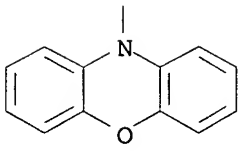


RN 522616-27-9 HCAPLUS
CN Boronic acid, [9,9,9',9'-tetramethyl-7'-(10H-phenoxazin-10-yl)[2,2'-bi-9H-fluoren]-7-yl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM C07D209-86
ICS C07D265-38; C07D279-22; C07D279-26; C07D401-10; C09K011-06; H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 27

IT 522615-51-6P 522615-52-7P 522615-53-8P 522615-54-9P
522615-55-0P 522615-56-1P **522615-57-2P**
522615-58-3P 522615-59-4P 522615-60-7P
522615-61-8P 522615-62-9P 522615-63-0P
522615-64-1P 522615-65-2P 522615-66-3P **522615-67-4P**
522615-68-5P 522615-69-6P 522615-70-9P
522615-71-0P 522615-72-1P 522615-73-2P
522615-74-3P 522615-75-4P 522615-76-5P
522615-77-6P 522615-78-7P 522615-79-8P **522615-80-1P**
522615-81-2P 522615-82-3P 522615-83-4P
522615-84-5P 522615-85-6P 522615-86-7P
522615-87-8P 522615-88-9P 522615-89-0P
522615-90-3P 522615-91-4P 522615-92-5P
522615-93-6P 522615-94-7P 522615-95-8P
522615-96-9P 522615-97-0P 522615-98-1P
522615-99-2P 522616-00-8P

(spirocyclic compds. containing direct bond between anthracene and fluorene rings for organic **LED** of high **luminescent** efficiency)

IT 523-27-3, 9,10-Dibromoanthracene 23674-20-6, 9-Bromo-10-phenylanthracene 121848-75-7, 10,10'-Dibromo-9,9'-bianthryl 144981-86-2, 2,7-Diiodo-9,9-dimethylfluorene
145005-98-7 148873-91-0 158902-11-5 400607-05-8
400607-20-7 400607-26-3 400607-34-3 400607-35-4
400607-67-2 400607-68-3 400607-71-8 400607-74-1
400607-75-2 400607-77-4 522616-01-9 522616-02-0
522616-03-1 522616-04-2 522616-05-3 522616-06-4
522616-07-5 **522616-08-6** 522616-09-7
522616-10-0 522616-11-1 522616-12-2 **522616-13-3**
522616-14-4 522616-15-5 522616-16-6 522616-17-7
522616-18-8 **522616-19-9** 522616-20-2 522616-21-3
522616-22-4 522616-23-5 **522616-24-6** 522616-25-7
522616-26-8 **522616-27-9** 522616-28-0
522616-29-1 522616-30-4 522616-31-5 522616-32-6
522616-33-7 522616-34-8 522616-35-9 522616-36-0
522616-37-1 522616-38-2
(spirocyclic compds. containing direct bond between anthracene and fluorene rings for organic **LED** of high **luminescent** efficiency)

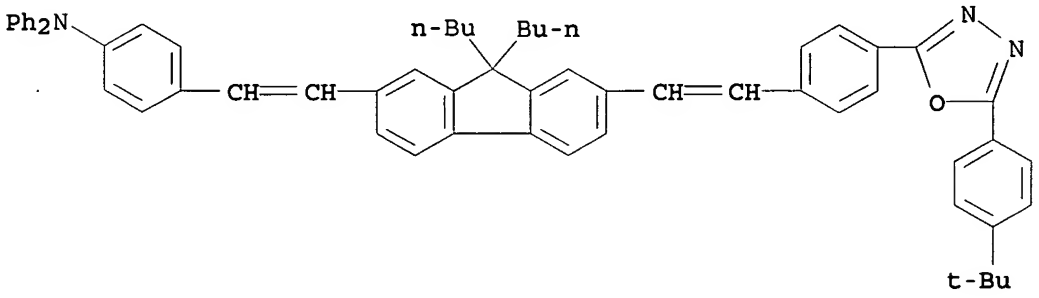
L37 ANSWER 18 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:329993 HCAPLUS
DOCUMENT NUMBER: 139:170992
TITLE: A new approach to design light emitting devices using electroactive **dyes**
AUTHOR(S): Pan, Michael; Patra, Amitava; Friend, Christopher S.; Lin, Tzu-Chau; Cartwright, Alexander N.; Prasad, Paras. N.; Burzynski, Ryszard
CORPORATE SOURCE: Institute for Lasers, Photonics and Biophotonics, Departments of Electrical Engineering and Chemistry, University at Buffalo, The State University of New York, Buffalo, NY, 14260, USA
SOURCE: Materials Research Society Symposium Proceedings (**2002**), 734(Polymer/Metal Interfaces and Defect Mediated Phenomena in Ordered Polymers), 273-278
CODEN: MRSPDH; ISSN: 0272-9172
PUBLISHER: Materials Research Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Organic electroluminescence (EL) single layer devices using electroactive **dyes** incorporated in poly-vinylcarbazole (PVK) were fabricated. The mol. structures of the two-photon **dyes** are the generic D-π-A, D-π-D, and A-π-A, structural motif, composed of a diphenylamine donor (D), a distyrylfluorene π-bridge, and an oxadiazole acceptor (A). A single layer type of EL device of ITO/PVK:**DYE**/Ca/Al was fabricated. The light emission peak and the threshold of the electroluminescence emission depend on the structure and concentration of the **dye**. The EL intensity increases with the **dye** concentration and as the voltage is increased the brightness increases and reaches a value 498 cd/m2 at an applied voltage of 25 V for the D-π-A **dye**. The authors present a phys.

explanation of this observed behavior and show that this has significant impact on the design of light emitting devices using these organic **dyes**.

IT **473700-67-3 473700-69-5**
(new approach to design **light emitting** devices using electroactive **dyes**)

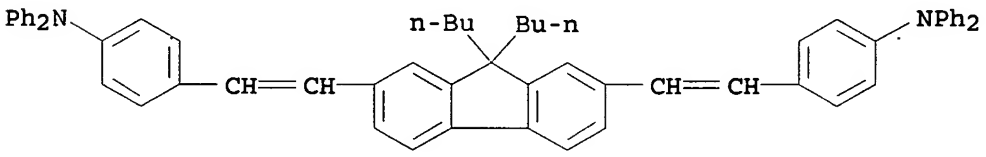
RN 473700-67-3 HCAPLUS

CN Benzenamine, 4-[2-[9,9-dibutyl-7-[2-[4-[5-[4-(1,1-dimethylethyl)phenyl]-1,3,4-oxadiazol-2-yl]phenyl]ethenyl]-9H-fluoren-2-yl]ethenyl]-N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 473700-69-5 HCAPLUS

CN Benzenamine, 4,4'-[(9,9-dibutyl-9H-fluorene-2,7-diyl)di-2,1-ethenediyl]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST electroluminescent device electroactive **dye** electron hole transport

IT **Dyes**
(electroactive; new approach to design light emitting devices using electroactive **dyes**)

IT Electric current-potential relationship
Electroluminescent devices
Electron transport
Hole transport
Luminescence
(new approach to design light emitting devices using electroactive **dyes**)

IT **473700-67-3** 473700-68-4 **473700-69-5**
(new approach to design **light emitting** devices using electroactive **dyes**)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 19 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

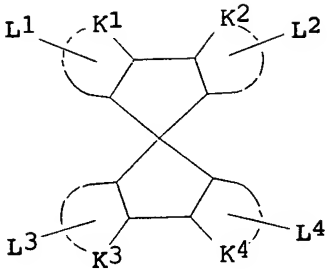
ACCESSION NUMBER: 2003:202742 HCAPLUS

DOCUMENT NUMBER: 138:245328

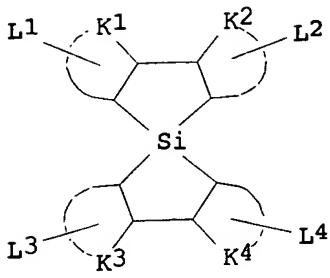
TITLE: Organic luminescence device
INVENTOR(S): Suzuki, Koichi; Senoo, Akihiro; Ueno, Kazunori
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 84 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003020847	A1	20030313	WO 2002-JP8803	2002 0830
			<--	
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2003077670	A2	20030314	JP 2001-265871	2001 0903
			<--	
JP 2003115386	A2	20030418	JP 2001-306084	2001 1002
			<--	
US 2003235713	A1	20031225	US 2003-385461	2003 0312
			<--	
US 6916555	B2	20050712		
PRIORITY APPLN. INFO.:			JP 2001-265871 A	2001 0903
			<--	
			JP 2001-306084 A	2001 1002
			<--	
			WO 2002-JP8803 A1	2002 0830
			<--	

OTHER SOURCE(S): MARPAT 138:245328
GI



I



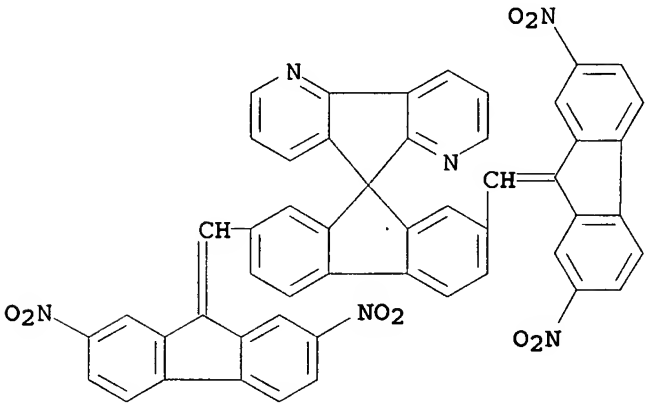
II

AB Organic light-emitting devices which comprise ≥1 organic layers between an anode and a cathode are described in which ≥1 of the organic layers is formed from a spiro compound described by the general formula I or II (H1-4 = independently selected (un)substituted aromatic or (un)substituted heterocyclic rings, with the restriction that ≥1 of K1-4 = a heterocyclic ring containing ≥1 nitrogen atom; and L1-4 = independently selected H or other substituents).

IT **501664-35-3**
(organic **light-emitting** devices with spiro compound-containing layers)

RN 501664-35-3 HCAPLUS

CN Spiro[9H-cyclopenta[1,2-b:3,4-b']dipyridine-9,9'-[9H]fluorene], 2',7'-bis[(2,7-dinitro-9H-fluoren-9-ylidene)methyl]- (9CI) (CA INDEX NAME)



IC ICM C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 28, 76

IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 25067-59-8, Polyvinylcarbazole 501664-13-7 501664-14-8 501664-15-9
501664-16-0 501664-17-1 501664-18-2 501664-19-3
501664-20-6 501664-21-7 501664-22-8 501664-23-9
501664-24-0 501664-25-1 501664-26-2 501664-27-3
501664-28-4 501664-29-5 501664-30-8 501664-31-9
501664-32-0 501664-33-1 501664-34-2 **501664-35-3**
501664-36-4 501664-37-5 501664-38-6 501664-39-7
501664-40-0 501664-41-1 501664-42-2 501664-43-3

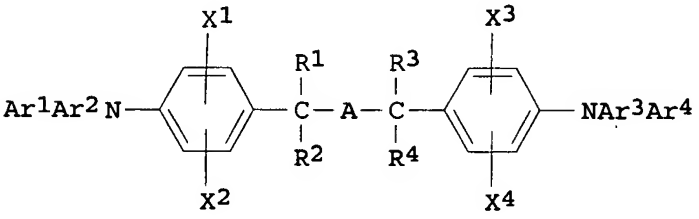
501664-44-4 501664-45-5 501664-46-6 501664-47-7
501664-48-8 501664-49-9 501664-50-2 501664-51-3
501664-52-4 501664-53-5 501664-54-6 501664-55-7
501664-56-8 501664-57-9 501664-58-0 501664-59-1
501664-60-4 501927-45-3 501928-66-1 501928-78-5
501928-79-6 501930-14-9 501930-33-2 501930-51-4
501930-53-6 501930-57-0 501930-61-6 501930-63-8
501930-64-9 501930-65-0 501930-75-2 501930-78-5
501930-93-4
(organic **light-emitting** devices with spiro compound-containing layers)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 20 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:194549 HCAPLUS
DOCUMENT NUMBER: 138:229012
TITLE: Aromatic amine and organic electroluminescent device using the amine
INVENTOR(S): Shimamura, Takehiko; Ishida, Tsutomu; Tanabe, Yoshimitsu; Totani, Yoshiyuki; Nakatsuka, Masakatsu
PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003073343	A2	20030312	JP 2001-265321	20010903 <--

PRIORITY APPLN. INFO.: JP 2001-265321 20010903 <--
OTHER SOURCE(S): MARPAT 138:229012
GI



I

AB The amine is that represented as I [X1-X4 = H, halogen, linear, branched, or cyclic alkyl, linear, branched, or cyclic alkoxy, (substituted) aralkyl, (substituted) aryl; R1-R4 = linear,

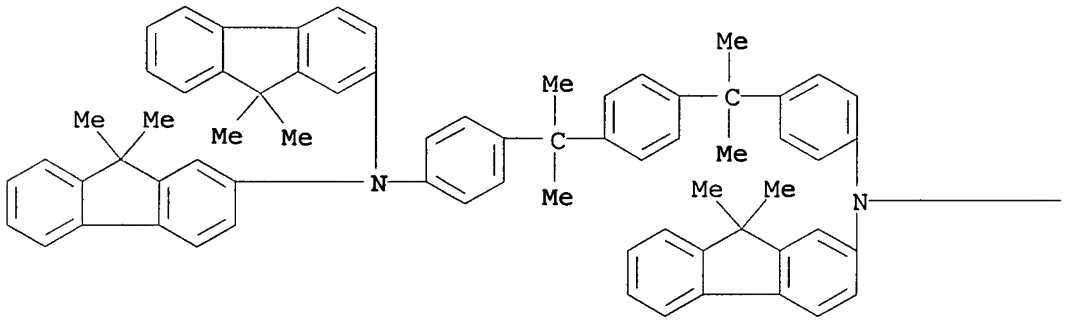
branched, or cyclic alkyl, (substituted) aralkyl; A = (substituted) arylene; ≥1 of Ar1-Ar4 = (substituted) condensed polycyclic aryl; the rest of Ars = (substituted) aryl]. The electroluminescent device has ≥1 layer containing I, which may be a pos. hole-transporting layer or a light-emitting layer, in a gap between a pair of electrodes. The device shows enhanced stability and durability.

IT **500716-95-0P 500716-97-2P 500717-02-2P 500717-07-7P 500717-09-9P**
(aromatic amine in pos. hole-transporting layer or **light-emitting** layer in electroluminescent device)

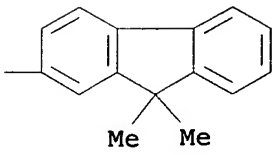
RN 500716-95-0 HCAPLUS

CN 9H-Fluoren-2-amine, N,N'-[1,4-phenylenebis[(1-methylethylidene)-4,1-phenylene]]bis[N-(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



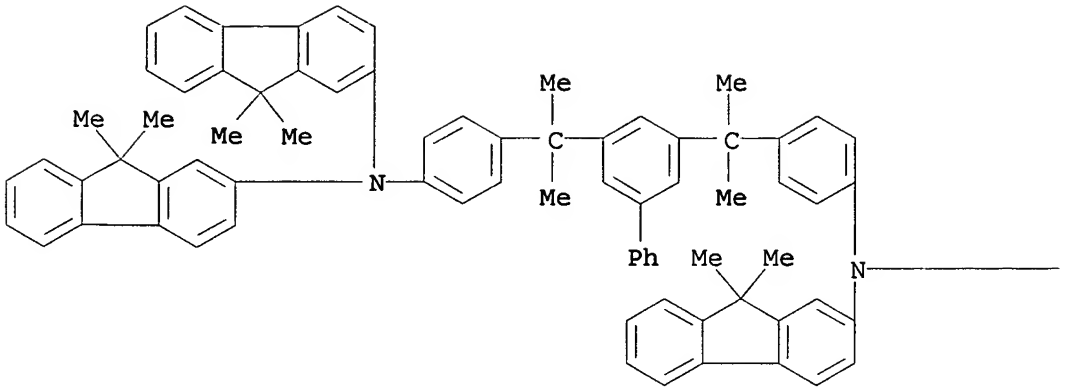
PAGE 1-B



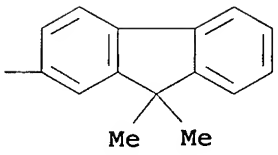
RN 500716-97-2 HCAPLUS

CN 9H-Fluoren-2-amine, N,N'-[[1,1'-biphenyl]-3,5-diylbis[(1-methylethylidene)-4,1-phenylene]]bis[N-(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A

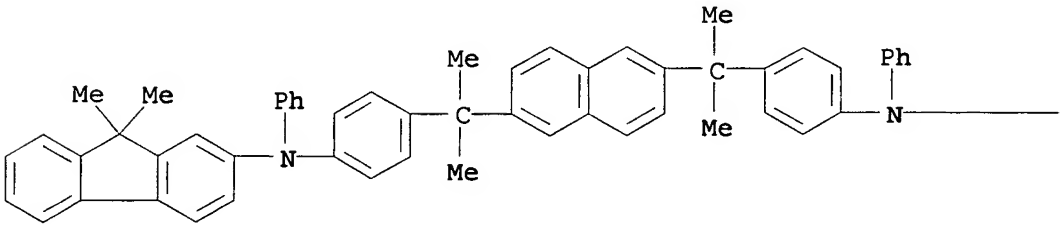


PAGE 1-B

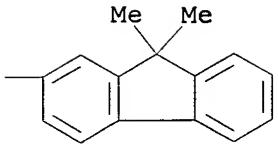


RN 500717-02-2 HCAPLUS
CN 9H-Fluoren-2-amine, N,N'-[2,6-naphthalenediylbis[(1-methylethylidene)-4,1-phenylene]]bis[9,9-dimethyl-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

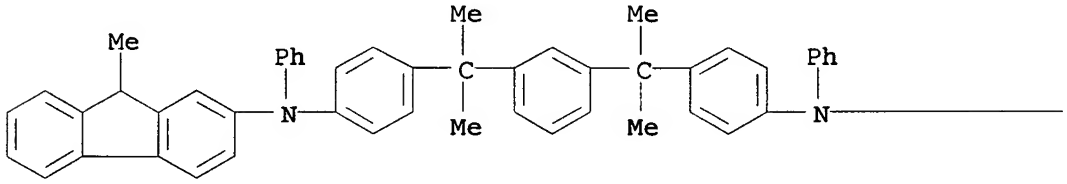


PAGE 1-B

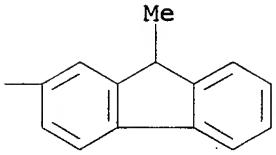


RN 500717-07-7 HCAPLUS
CN 9H-Fluoren-2-amine, N,N'-[1,3-phenylenebis[(1-methylethylidene)-4,1-phenylene]]bis[9-methyl-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

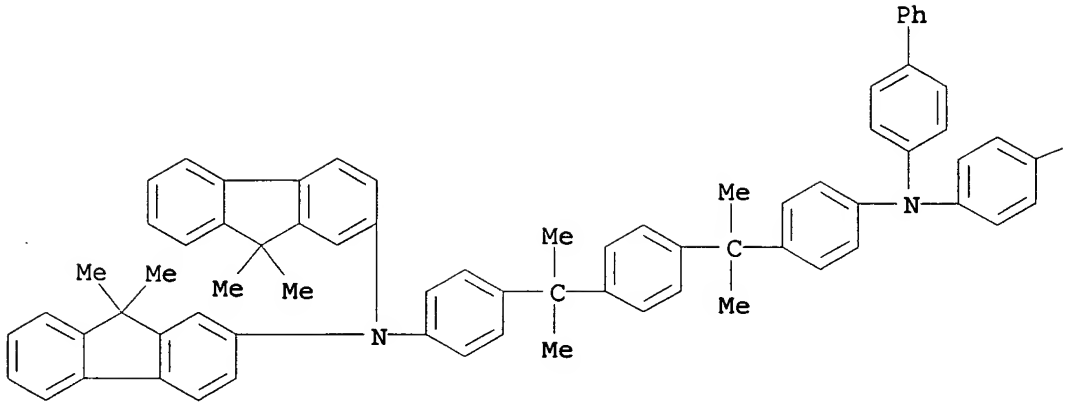


PAGE 1-B



RN 500717-09-9 HCAPLUS
CN 9H-Fluoren-2-amine, N-[4-[1-[4-[1-[4-[bis([1,1'-biphenyl]-4-yl)amino]phenyl]-1-methylethyl]phenyl]-1-methylethyl]phenyl]-N-(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

Ph

IC ICM C07C211-54
ICS C07C211-58; C07C211-61; C09K011-06; H05B033-14; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25
IT 500716-94-9P **500716-95-0P** 500716-96-1P
500716-97-2P 500716-98-3P 500716-99-4P 500717-00-0P
500717-01-1P **500717-02-2P** 500717-03-3P 500717-04-4P
500717-05-5P 500717-06-6P **500717-07-7P** 500717-08-8P
500717-09-9P
(aromatic amine in pos. hole-transporting layer or **light -emitting** layer in electroluminescent device)

L37 ANSWER 21 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:889345 HCAPLUS
DOCUMENT NUMBER: 137:377274
TITLE: Charge injection type **light emitting** device
INVENTOR(S): Hashimoto, Yuichi; Kawai, Tatsundo; Ueno, Kazunori
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: U.S. Pat. Appl. Publ., 10 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
---	---	---	---	---

US 2002171358	A1	20021121	US 2002-96311	2002 0313 <--
US 6664731	B2	20031216		
JP 2002343575	A2	20021129	JP 2002-59780	2002 0306 <--
PRIORITY APPLN. INFO.:			JP 2001-73454	A 2001 0315 <--
			JP 2002-59780	A 2002 0306 <--

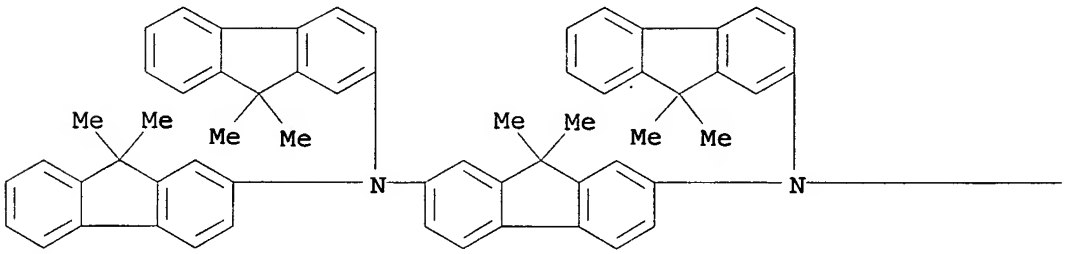
AB Charge injection **light-emitting** devices comprising a pos. electrode, a neg. electrode, and an organic film sandwiched between the electrodes and composed of ≥1 organic compds., the organic film containing ≥1 **light-emitting** layer are described in which the potential barrier to electrons between the **light emitting** layer and a barrier layer is ≥0.5 eV. Preferably, the **light-emitting** material contains a hydrocarbon compound having a condensed ring and the barrier material is formed from a hole-transporting compound

IT **216454-35-2 361486-60-4**
(charge injection **light-emitting** devices)

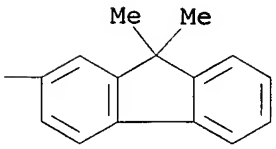
RN 216454-35-2 HCAPLUS

CN 9H-Fluorene-2,7-diamine, N,N,N',N'-tetrakis(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl- (9CI) (CA INDEX NAME)

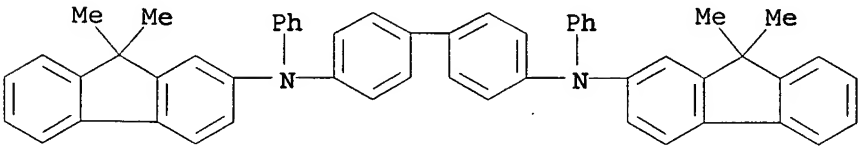
PAGE 1-A



PAGE 1-B



RN 361486-60-4 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(9,9-dimethyl-9H-fluoren-2-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-00
INCL 313504000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
ST charge injection **light emitting** device
IT Electroluminescent devices
(organic; charge injection **light-emitting** devices)
IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 14285-65-5, Gallium phthalocyanine 65181-78-4 123847-85-8 143886-11-7 **216454-35-2** 349666-25-7 **361486-60-4**
(charge injection **light-emitting** devices)

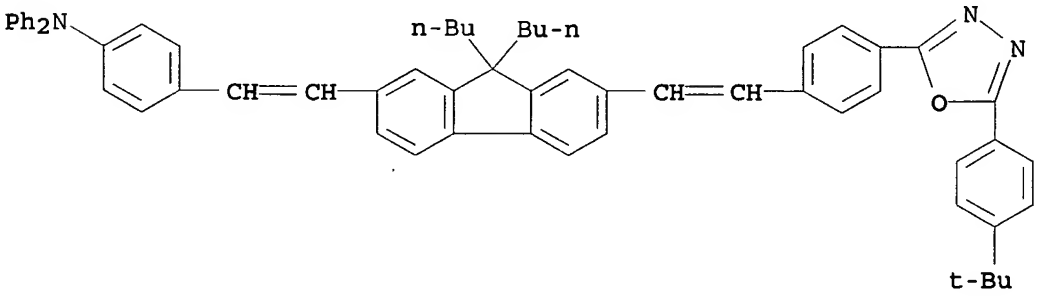
L37 ANSWER 22 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:661440 HCAPLUS
DOCUMENT NUMBER: 137:330597
TITLE: Electroluminescence Properties of Systematically Derivatized Organic Chromophores Containing Electron Donor and Acceptor Groups
AUTHOR(S): Patra, Amitava; Pan, Michael; Friend, Christopher S.; Lin, Tzu-Chau; Cartwright, Alexander N.; Prasad, Paras N.; Burzynski, Ryszard
CORPORATE SOURCE: Institute for Lasers Photonics and Biophotonic, Departments of Chemistry and Electrical Engineering, The State University of New York, University at Buffalo, Buffalo, NY, 14260, USA
SOURCE: Chemistry of Materials (**2002**), 14(10), 4044-4048
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We present electroluminescent (**EL**) properties of new blue-green organic **dyes**. The mol. structures of these **dyes** are based on 2,7-divinyl-9,9-bis(tert-butyl)fluorene, a π-electron bridge, end-capped with electron donor (D) and/or electron acceptor (A) group(s) to form D-π-A, D-π-D, and A-π-A structures. The donor group is a triphenylamine, and the acceptor group is a diphenyloxadiazole. We studied **EL** properties of these **dyes** in a single-layer **EL** device having the following structure: ITO/PVK:**DYE**/Ca/Al. We found that both the wavelength of maximum emission and the threshold of **EL** depend on the structure and the

concentration of the **dye**. Among the structure reported here, the D-π-A **dye** shows the highest **EL** performance, exhibiting a brightness of 498 cd/m2 at an applied voltage of 25 V.

IT **473700-67-3P 473700-69-5P**
(electroluminescence of systematically derivatized organic chromophores containing electron donor and acceptor groups)

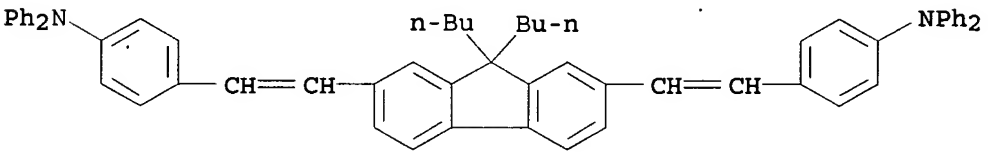
RN 473700-67-3 HCAPLUS

CN Benzenamine, 4-[2-[9,9-dibutyl-7-[2-[4-[5-[4-(1,1-dimethylethyl)phenyl]-1,3,4-oxadiazol-2-yl]phenyl]ethenyl]-9H-fluoren-2-yl]ethenyl]-N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 473700-69-5 HCAPLUS

CN Benzenamine, 4,4'-[(9,9-dibutyl-9H-fluorene-2,7-diyl)di-2,1-ethenediyl]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 22, 28, **41**, 76

ST electroluminescence divinyl tertbutyl fluorene deriv electron donor acceptor chromophore; photoluminescence electroluminescent device **dye** PVK electron transport

IT **Luminescent** substances
(**dyes**, electroluminescent; electroluminescence of systematically derivatized organic chromophores containing electron donor and acceptor groups)

IT Electric current-potential relationship
(**luminance**-; of electroluminescent devices employing systematically derivatized organic chromophores containing electron donor and acceptor groups)

IT Molecular structure-property relationship
(**luminescence**; electroluminescence of systematically derivatized organic chromophores containing electron donor and acceptor groups)

IT **Dyes**
(**luminescent**, electroluminescent; electroluminescence of systematically derivatized organic chromophores containing electron donor and acceptor groups)

IT **Luminescence**

Luminescence, electroluminescence
(of electroluminescent devices employing systematically derivatized organic chromophores containing electron donor and acceptor groups)

IT 25067-59-8, Poly(9-vinylcarbazole)
(**dye**-doped emitting layer; electroluminescence of systematically derivatized organic chromophores containing electron donor and acceptor groups and electroluminescent devices containing)

IT **473700-67-3P** 473700-68-4P **473700-69-5P**
(electroluminescence of systematically derivatized organic chromophores containing electron donor and acceptor groups)

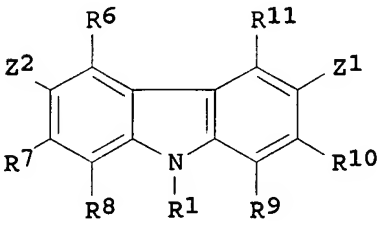
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 23 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:595531 HCAPLUS
DOCUMENT NUMBER: 137:161221
TITLE: 3,6,9-trisubstituted carbazoles for light emitting diodes
INVENTOR(S): Lin, Jiann T'suen; Thomas, K. R. Justin; Tao, Yu-tai; Ko, Chung-wen
PATENT ASSIGNEE(S): Academia Sinica, Taiwan
SOURCE: U.S. Pat. Appl. Publ., 10 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

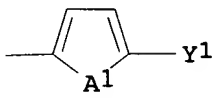
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002107405	A1	20020808	US 2001-990576	2001 1121 <--
US 6649772	B2	20031118		

PRIORITY APPLN. INFO.: US 2000-252804P P 2000 1122 <--

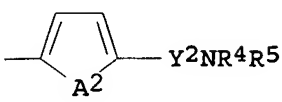
OTHER SOURCE(S): MARPAT 137:161221
GI



I



II



III

AB Compds. are described by the general formula I (Z1 and Z2 =

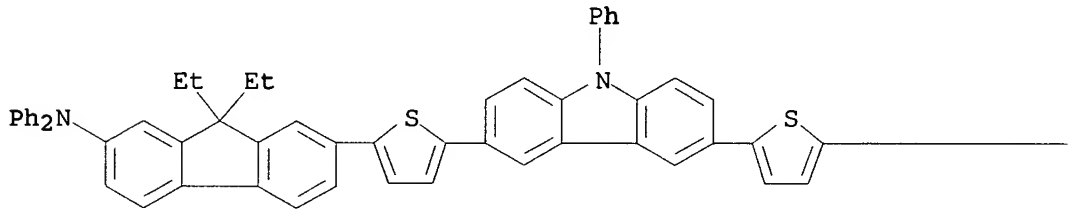
independently selected -N(R2)R3, II, and III; A1 and A2 - independently selected S, O, NR, or CH:CH; Y1, Y2 and R1-5 = independently selected aryl or heteroaryl groups; R6-11 = independently selected H, CN, alkyl, OR, NRR', COR, or C(O)OR; and R and R' = independently selected H or alkyl). Electroluminescent devices employing the compds. in hole-transporting and/or light-emitting layers are also described.

IT **410547-42-1**
(carbazole derivs. and **light-emitting** diodes using them)

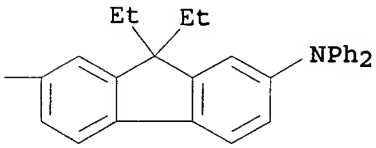
RN 410547-42-1 HCAPLUS

CN 9H-Fluoren-2-amine, 7,7'-[(9-phenyl-9H-carbazole-3,6-diyl)di-5,2-thiophenediyl]bis[9,9-diethyl-N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C07D209-94

INCL 548439000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 27, 76

IT 2085-33-8, Tris(8-hydroxyquinoline)aluminum 37271-44-6
50926-11-9, Indium tin oxide 192198-85-9 410547-40-9
410547-41-0 **410547-42-1** 445255-64-1
(carbazole derivs. and **light-emitting** diodes using them)

L37 ANSWER 24 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:587825 HCAPLUS

DOCUMENT NUMBER: 137:301792

TITLE: Green and Yellow Electroluminescent Dipolar Carbazole Derivatives: Features and Benefits of Electron-Withdrawing Segments

AUTHOR(S): Thomas, K. R. Justin; Lin, Jiann T.; Tao, Yu-Tai; Chuen, Chang-Hao

CORPORATE SOURCE: Institute of Chemistry, Academia Sinica, Nankang, 115, Taiwan

SOURCE: Chemistry of Materials (**2002**),

14(9), 3852-3859
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

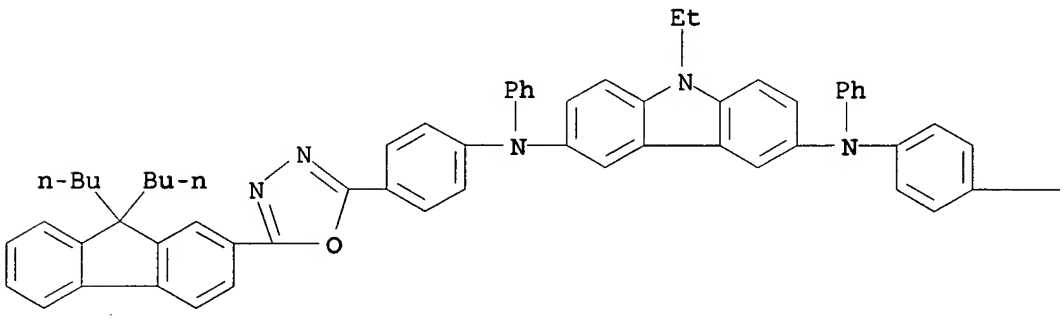
AB New multiply substituted carbazole derivs. containing fluorene or phenylene conjugated oxadiazole segments and quinoxaline units were obtained by Pd-catalyzed C-N coupling reactions. They are amorphous with the glass transition temperature (Tg) in the range 104-176°. The emission color of the materials varies from blue to yellow and is dependent on the nature of the electron-withdrawing segments and solvents. Two reversible 1-electron oxidns. were observed for these mols. in cyclic voltammograms, which originate from the peripheral 3,6-diarylamino units in the 3,6,9-trisubstituted derivs. and diarylamine and carbazole segments in the 3,9-disubstituted compds. Redns. originating from quinoxaline segments were also located for the mols. incorporating quinoxaline moieties. The double-layer organic light-emitting diodes fabricated using these compds. as hole-transporting/emitting layers and TPBI or Alq3 as an electron-transporting layer emit bluish green to yellow colors. The recombination zone is restricted in the HTL layer for the quinoxaline-containing mols. irresp. of the electron-transporting layer used and emission occurs from them. However, for the oxadiazole derivs. emission in the Alq3-based devices is either red shifted or resembles that of Alq3. Cyclic voltammetric and spectroscopic data support more pronounced electron affinity for the quinoxaline-incorporated carbazole derivs. than for the oxadiazole-tethered carbazole materials.

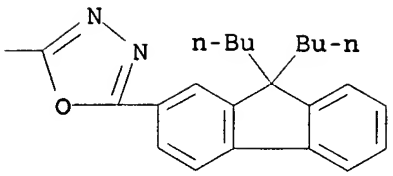
IT **468062-29-5P**
(green and yellow electroluminescent dipolar carbazole derivs. and their electrochem. and spectral and **luminescent** properties affected by electron-withdrawing segments)

RN 468062-29-5 HCAPLUS

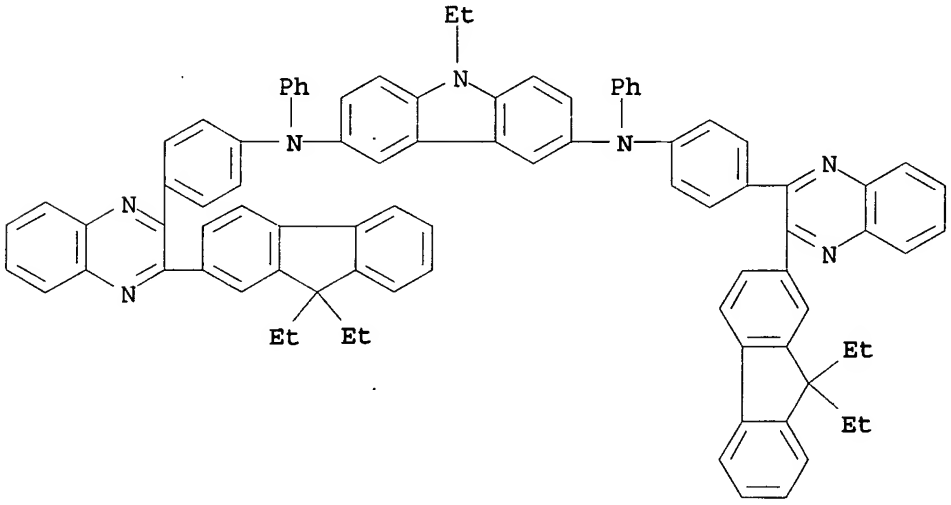
CN 9H-Carbazole-3,6-diamine, N,N'-bis[4-[5-(9,9-dibutyl-9H-fluoren-2-yl)-1,3,4-oxadiazol-2-yl]phenyl]-9-ethyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A





IT **468062-37-5**
(green and yellow electroluminescent dipolar carbazole derivs. and their electrochem. and spectral and **luminescent** properties affected by electron-withdrawing segments)
RN 468062-37-5 HCAPLUS
CN 9H-Carbazole-3,6-diamine, N,N'-bis[4-[3-(9,9-diethyl-9H-fluoren-2-yl)-2-quinoxalinyl]phenyl]-9-ethyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 22, 72, 76
IT 468062-26-2P 468062-27-3P 468062-28-4P **468062-29-5P**
468062-30-8P 468062-31-9P 468062-32-0P
(green and yellow electroluminescent dipolar carbazole derivs. and their electrochem. and spectral and **luminescent** properties affected by electron-withdrawing segments)
IT 119546-71-3 436800-48-5 468062-24-0 468062-25-1
468062-33-1 468062-34-2 468062-35-3 468062-36-4
468062-37-5
(green and yellow electroluminescent dipolar carbazole derivs. and their electrochem. and spectral and **luminescent** properties affected by electron-withdrawing segments)
REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE

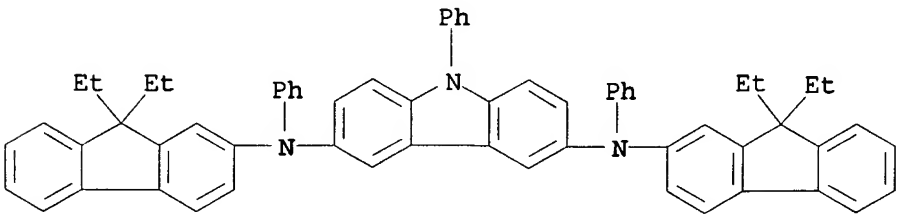
FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 25 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:299600 HCAPLUS
DOCUMENT NUMBER: 137:93475
TITLE: Light-emitting carbazole derivatives for electroluminescent materials
AUTHOR(S): Lin, Jiann T'suen; Thomas, K. R. Justin; Tao, Yu-Tai; Ko, Chung-Wen
CORPORATE SOURCE: Institute of Chemistry, Academia Sinica, Taipei, 115, Taiwan
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2002), 4464(Organic Light-Emitting Materials and Devices V), 307-316
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Amorphous carbazole derivs. containing peripheral diarylamines at the 3- and 6-positions and an Et or aryl substituent at the 9-position of the carbazole moiety were synthesized. These new carbazole compds. (carbs) possess high glass transition temps. (Tg: 120- 194 degree(s)C) and high thermal decomposition temps. (Td°450 degree(s)C). The compds. are weakly to moderately luminescent with the emission wavelength ranging from green to blue. Two types of light-emitting diodes (LED) were constructed from carb:(I)ITO/carb/TPBI/Mg:Ag and (II)ITO/carb/Alq3/Mg:Ag, where TPBI and Alq3 are 1,3,5-tris(N-phenylbenzimidazol-2-yl)benzene and tris(8- hydroxyquinoline) Al, resp. In type I devices the carb functions as the hole-transporting as well as emitting material. In type II devices either carb and/or Alq3 is the light emitting material. Several green light-emitting devices exhibit exceptional maximum brightness and the phys. performance is superior to those of typical green-light-emitting devices of the structure ITO/diamine/Alq3/Mg:Ag. Relation between the LUMO of the carb and the performance of the light-emitting diode is discussed.

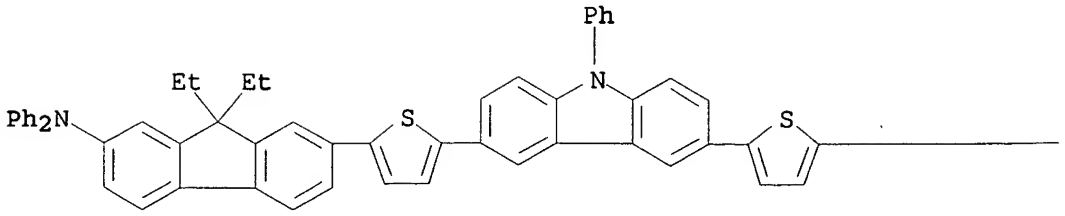
IT **373390-05-7 410547-42-1**
(**light-emitting** carbazole derivs. for electroluminescent materials)

RN 373390-05-7 HCAPLUS
CN 9H-Carbazole-3,6-diamine, N,N'-bis(9,9-diethyl-9H-fluoren-2-yl)-N,N',9-triphenyl- (9CI) (CA INDEX NAME)

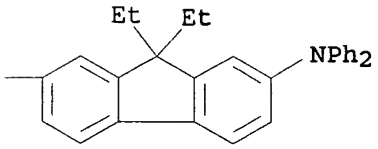


RN 410547-42-1 HCAPLUS
CN 9H-Fluoren-2-amine, 7,7'-[(9-phenyl-9H-carbazole-3,6-diyl)di-5,2-thiophenediyl]bis[9,9-diethyl-N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



CC 22-9 (Physical Organic Chemistry)
Section cross-reference(s): 73, 74, 76
IT 144726-91-0 340162-05-2 340162-07-4 340162-08-5
373390-01-3 373390-02-4 373390-03-5 373390-04-6
373390-05-7 373390-06-8 **410547-42-1**
441351-17-3 441351-18-4 441351-19-5
(**light-emitting** carbazole derivs. for electroluminescent materials)
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

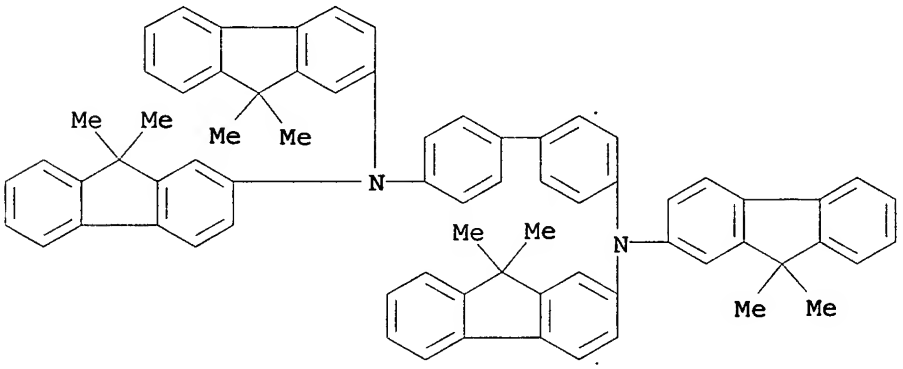
L37 ANSWER 26 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:299588 HCAPLUS
DOCUMENT NUMBER: 137:101065
TITLE: Development of hole-blocking amorphous molecular materials and their application in organic light-emitting diodes
AUTHOR(S): Shirota, Yasuhiko; Kinoshita, Motoi; Okumoto, Kenji
CORPORATE SOURCE: Department of Applied Chemistry, Faculty of Engineering, Osaka University, Yamadaoka, Suita, Osaka, 565-0871, Japan
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (**2002**), 4464(Organic Light-Emitting Materials and Devices V), 203-210
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A novel class of amorphous mol. materials, 1,3,5-tris(4-biphenylyl)benzene (TBB), 1,3,5-tris(4- fluorobiphenyl-4'-yl)benzene(F-TBB), 1,3,5-tris(9,9-dimethylfluoren-2-yl)benzene

(TFB), and 1,3,5-tris[4-(9,9- dimethylfluoren-2-yl)phenyl]benzene (TFPB), function as hole-blocking materials in organic electroluminescent (EL) devices. 1,3,5-Tris[5-(dimesitylboryl)thiophen-2-yl]benzene (TMB-TB) was also found to function as an electron transporter with better hole-blocking properties relative to tris(8-quinolinolato)aluminum. These materials, which readily form stable amorphous glasses with well-defined glass-transition temps., were characterized by relatively high oxidation potentials and large HOMO-LUMO energy gaps. The use of these materials as hole blockers in multilayer organic EL devices permitted efficient blue-violet emission from emitters with hole transporting properties, e.g., N,N'-bis(3-methylphenyl)-N,N'-diphenyl-[1,1'-biphenyl]-4,4'-diamine (TPD), N,N'-bis(4-biphenylyl)-N,N'-diphenyl-[1,1'-biphenyl]-4,4'-diamine (p-BPD), N,N-bis(9,9-dimethylfluorene-2- yl)aniline (F2PA), N,N'-bis[9,9-dimethylfluoren-2-yl]-N,N'-diphenyl-9,9-dimethylfluorene-2,7-diamine (PFFA), and N,N,N',N'-tetrakis(9,9-dimethylfluoren-2-yl)-[1,1'-biphenyl]-4,4'-diamine (FFD).

IT **216454-28-3 246857-02-3**
(development of hole-blocking amorphous mol. materials and application in organic **light-emitting** diodes)

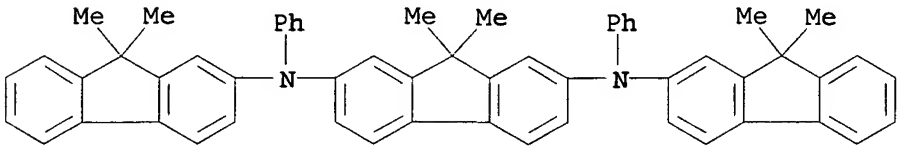
RN 216454-28-3 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N,N',N'-tetrakis(9,9-dimethyl-9H-fluoren-2-yl)- (9CI) (CA INDEX NAME)



RN 246857-02-3 HCAPLUS

CN 9H-Fluorene-2,7-diamine, N,N'-bis(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

IT 4733-39-5, Bathocuproine 65181-78-4, N,N'-Bis(3-methylphenyl)-N,N'-diphenyl-[1,1'-biphenyl]-4,4'-diamine 89410-40-2, 1,3,5-Tris(4-biphenylyl)benzene 123847-85-8, α-NPD 124729-98-2, MTDATA 134008-76-7 145693-79-4 165320-27-4

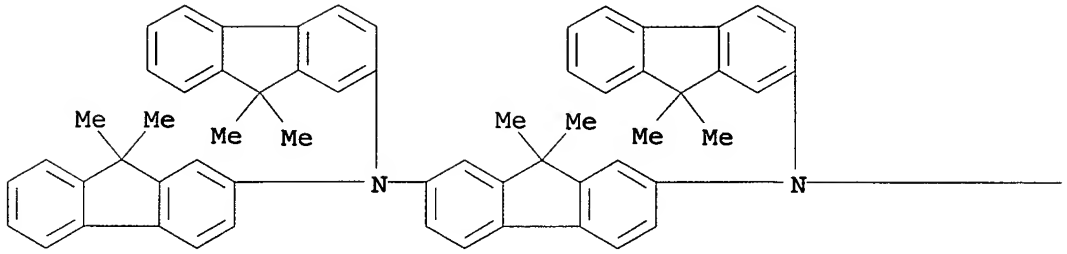
216454-28-3 246857-02-3 355832-02-9
372956-40-6 441352-90-5 441352-91-6
(development of hole-blocking amorphous mol. materials and application in organic **light-emitting** diodes)
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 27 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:273078 HCAPLUS
DOCUMENT NUMBER: 136:286734
TITLE: Electrically conductive elements and organic electroluminescent devices using them with improved light-emitting efficiency and durability
INVENTOR(S): Okada, Shinjiro; Tsuboyama, Akira; Moriyama, Takashi; Kamatani, Atsushi; Takiguchi, Takao; Mizutani, Hidemasa
PATENT ASSIGNEE(S): Canon Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

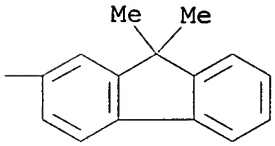
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002110352	A2	20020412	JP 2000-298024	2000 0929
			<--	
PRIORITY APPLN. INFO.:			JP 2000-298024	2000 0929
			<--	

AB The element, useful for a flat panel display, a projection display, and a printer, contains 2 opposed electrodes and 2 organic compound layers (containing different conduction carriers) laminated via heterojunction surface between the electrodes, wherein surface roughness of the heterojunction surface is different from that of at least one of the inner surface of the electrodes.
IT **216454-35-2**
(pos. hole-transporting layer; organic **EL** displays having heterojunction surface with controlled roughness for improving **light-emitting** efficiency and durability)
RN 216454-35-2 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N,N,N',N'-tetrakis(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM H05B033-14
ICS C09K011-06
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73, 76
IT 123847-85-8, α-NPD **216454-35-2**
(pos. hole-transporting layer; organic **EL** displays having heterojunction surface with controlled roughness for improving **light-emitting** efficiency and durability)

L37 ANSWER 28 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:229670 HCAPLUS
DOCUMENT NUMBER: 137:20673
TITLE: Synthesis and characterization of a two-photon absorbing and luminescent aminofluorenyl polymer
AUTHOR(S): Belfield, Kevin D.; Morales, Alma; Chapela, Victor M.; Percino, Judith
CORPORATE SOURCE: Dep. Chem. Sch. Optics, Univ. Central Florida, Orlando, FL, 32816, USA
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (**2002**), 43(1), 104-105
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer Chemistry
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English
AB The preparation, structural characterization, and photophys. characterization of diphenylaminofluorenyl polymer as well as 9,9-didecyl-2,7-bis[phenyl(9,9-didecyl-2-(N,N-

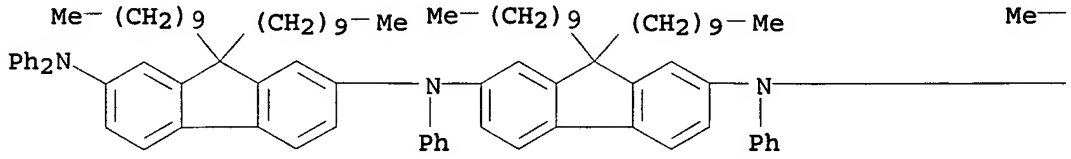
diphenylamino)fluorenyl)amino]fluorene model compound produced via Ullmann condensation were described. The high two-photon absorptivity, luminescence fluorescence properties, and high solubility made these compds. good candidates for two-photon based applications.

IT **434334-64-2P**
(preparation as model for two-photon absorbing and **luminescent** aminofluorenyl polymer)

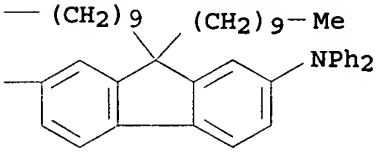
RN 434334-64-2 HCAPLUS

CN 9H-Fluorene-2,7-diamine, 9,9-didecyl-N,N'-bis[9,9-didecyl-7-(diphenylamino)-9H-fluoren-2-yl]-N,N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 73

IT **434334-64-2P**
(preparation as model for two-photon absorbing and **luminescent** aminofluorenyl polymer)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 29 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:152154 HCAPLUS

DOCUMENT NUMBER: 136:316630

TITLE: New Star-Shaped Luminescent Triarylamines: Synthesis, Thermal, Photophysical, and Electroluminescent Characteristics

AUTHOR(S): Thomas, K. R. Justin; Lin, Jiann T.; Tao, Yu-Tai; Ko, Chung-Wen

CORPORATE SOURCE: Institute of Chemistry, Academia Sinica, Taipei, 115, Taiwan

SOURCE: Chemistry of Materials (**2002**), 14(3), 1354-1361
CODEN: CMATEX; ISSN: 0897-4756

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB 3,6-Disubstituted carbazole and 1,3,5-trisubstituted benzene derivs. incorporating thienyl aromatic (Ph, fluorenyl, and

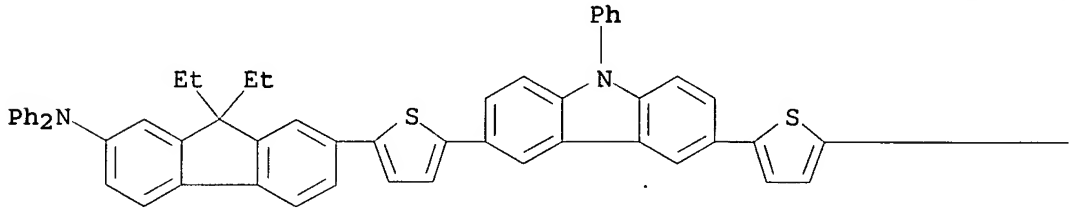
carbazolyl) conjugation and end-capped diphenylamine were synthesized by iterative C-N and C-C coupling procedures. The carbazole derivs. emit blue light and the star-shaped benzene derivs. emit either blue or bluish green color depending on the conjugation segment. In general, they possess high glass transition temps. (>120°) and decomposition temps. (>520°). Double-layer organic light-emitting devices were successfully fabricated using these novel mols. as hole-transporting and emitting materials. Devices of the configuration ITO/HTM/TPBI/Mg:Ag display blue to green emission from the HTM layer while in the devices of the configuration ITO/HTM/Alq3/Mg:Ag, a typical green emission from the Alq3 layer was observed

IT **410547-42-1P 410547-48-7P**
(synthesis, thermal, photophys., and electroluminescent characteristics of new star-shaped **luminescent** triarylamines)

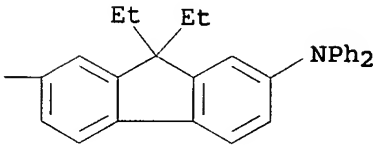
RN 410547-42-1 HCAPLUS

CN 9H-Fluoren-2-amine, 7,7'-[(9-phenyl-9H-carbazole-3,6-diyl)di-5,2-thiophenediyl]bis[9,9-diethyl-N,N-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

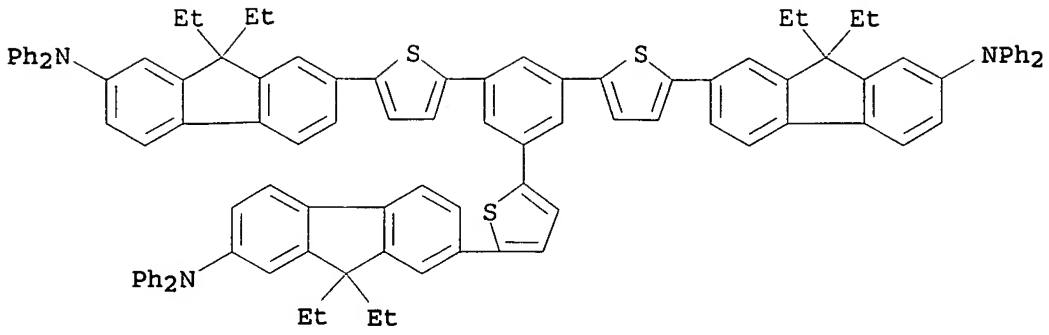


PAGE 1-B



RN 410547-48-7 HCAPLUS

CN 9H-Fluoren-2-amine, 7,7',7''-(1,3,5-benzenetriyltri-5,2-thiophenediyl)tris[9,9-diethyl-N,N-diphenyl- (9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
IT 410547-39-6P 410547-40-9P 410547-41-0P **410547-42-1P**
410547-43-2P 410547-44-3P 410547-45-4P 410547-46-5P
410547-47-6P **410547-48-7P**
(synthesis, thermal, photophys., and electroluminescent characteristics of new star-shaped **luminescent** triarylamines)
REFERENCE COUNT: 71 THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

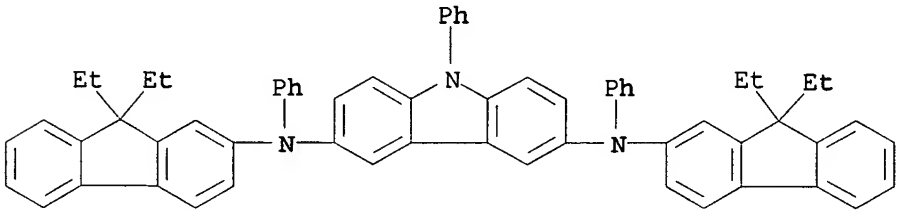
L37 ANSWER 30 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:619658 HCAPLUS
DOCUMENT NUMBER: 135:357646
TITLE: Light-Emitting Carbazole Derivatives: Potential Electroluminescent Materials
AUTHOR(S): Thomas, K. R. Justin; Lin, Jiann T.; Tao, Yu-Tai; Ko, Chung-Wen
CORPORATE SOURCE: Institute of Chemistry, Academia Sinica, Taipei, 115, Taiwan
SOURCE: Journal of the American Chemical Society (**2001**), 123(38), 9404-9411
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:357646
AB Stable carbazole derivs. that contain peripheral diarylamines at the 3- and 6-positions and an Et or aryl substituent at the 9-position of the carbazole moiety have been synthesized via palladium-catalyzed C-N bond formation. These new carbazole compds. (carbs) are amorphous with high glass transition temps. (Tg, 120-194 °C) and high thermal decomposition temps. (Td > 450 °C). The compds. are weakly to moderately luminescent in nature. The emission wavelength ranges from green to blue and is dependent on the substituent at the peripheral nitrogen atoms. Two types of light-emitting diodes were constructed from carb: (I) ITO/carb/TPBI/Mg:Ag and (II) ITO/carb/Alq3/Mg:Ag, where TPBI and Alq3 are 1,3,5-tris(N-phenylbenzimidazol-2-yl)benzene and tris(8-hydroxyquinoline) aluminum, resp. In type I devices, the carb functions as the hole-transporting as well as emitting material. In type II devices, either carb, or Alq3 is the light-emitting material. Several green light-emitting devices exhibit exceptional maximum brightness, and the phys. performance

appears to be better than those of typical green light-emitting devices of the structure ITO/diamine/Alq3/Mg:Ag. The relation between the LUMO of the carb and the performance of the light-emitting diode is discussed.

IT **373390-05-7P**
(preparation of **light-emitting** carbazole derivs. as potential electroluminescent materials)

RN 373390-05-7 HCAPLUS

CN 9H-Carbazole-3,6-diamine, N,N'-bis(9,9-diethyl-9H-fluoren-2-yl)-N,N',9-triphenyl- (9CI) (CA INDEX NAME)



CC 22-9 (Physical Organic Chemistry)
Section cross-reference(s): 73, 74, 76

IT 144726-91-0P 340162-05-2P 373390-01-3P 373390-02-4P
373390-03-5P 373390-04-6P **373390-05-7P** 373390-06-8P
(preparation of **light-emitting** carbazole derivs. as potential electroluminescent materials)

REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 31 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:603530 HCAPLUS
DOCUMENT NUMBER: 135:187795
TITLE: New amine compound for organic electroluminescent device showing longer luminescent lifetime and excellent durability
INVENTOR(S): Shimamura, Takehiko; Nakatsuka, Masakatsu; Ishida, Tsutomu
PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 75 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001226331	A2	20010821	JP 2000-34477	2000 0214

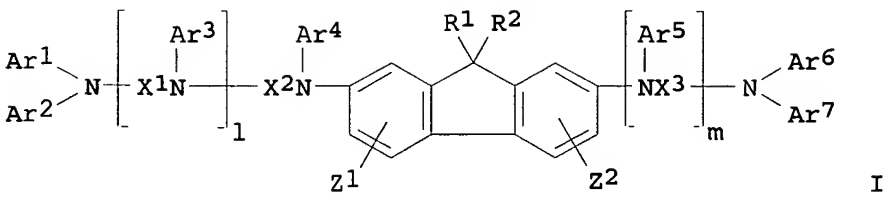
<--

PRIORITY APPLN. INFO.: JP 2000-34477 2000 0214

<--

OTHER SOURCE(S): MARPAT 135:187795

GI



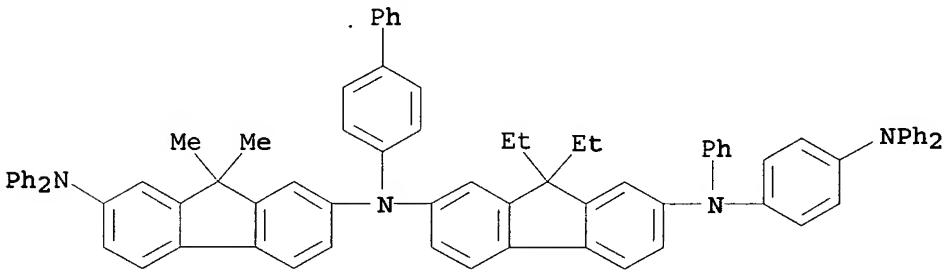
I

AB The new amine compound is represented by a general formula I (Ar1-7 = aryl; R1, R2 = H, alkyl, aryl, aralkyl; Z1, Z2 = H, halo, alkyl, alkoxy, aryl; X1-3 = arylene; l, m = 0, 1) and synthesized. The amine compound is suitable as a pos. hole injection transport material in an organic electroluminescent display device.

IT **354987-38-5 354987-48-7 354987-49-8 354987-51-2 354987-59-0**
(amine compound for organic electroluminescent device showing longer **luminescent** lifetime and excellent durability)

RN 354987-38-5 HCAPLUS

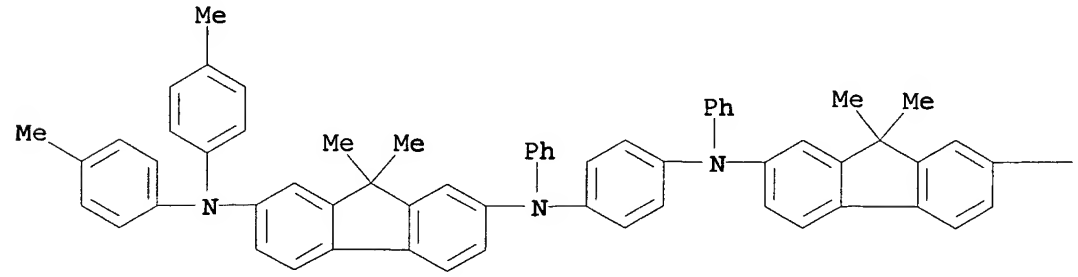
CN 9H-Fluorene-2,7-diamine, N-[1,1'-biphenyl]-4-yl-N-[7-(diphenylamino)-9,9-dimethyl-9H-fluoren-2-yl]-N'-[4-(diphenylamino)phenyl]-9,9-diethyl-N'-phenyl- (9CI) (CA INDEX NAME)



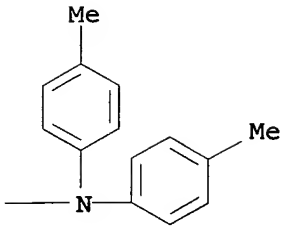
RN 354987-48-7 HCAPLUS

CN 9H-Fluorene-2,7-diamine, N,N''-1,4-phenylenebis[9,9-dimethyl-N',N'-bis(4-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

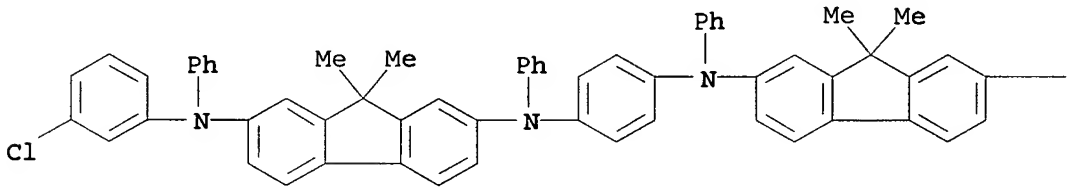


PAGE 1-B

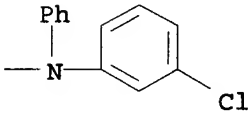


RN 354987-49-8 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N,N''-1,4-phenylenebis[N'-(3-chlorophenyl)-9,9-dimethyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)

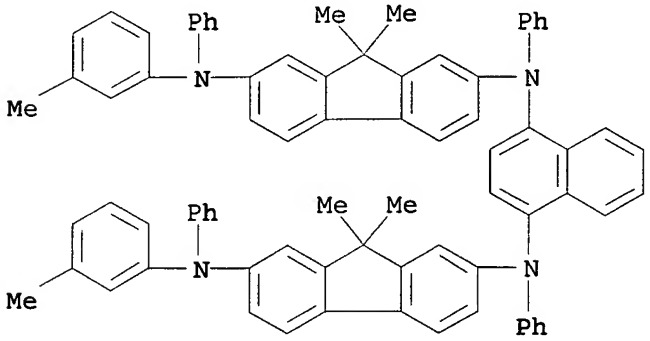
PAGE 1-A



PAGE 1-B



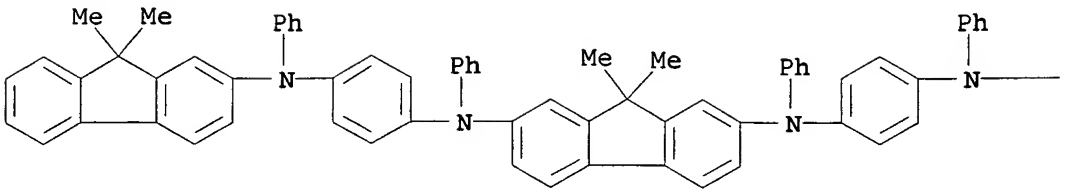
RN 354987-51-2 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N,N''-1,4-naphthalenediylbis[9,9-dimethyl-N'-(3-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



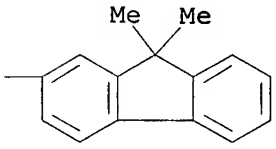
RN 354987-59-0 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N,N'-bis[4-[(9,9-dimethyl-9H-fluoren-2-yl)phenylamino]phenyl]-9,9-dimethyl-N,N'-diphenyl- (9CI) (CA

INDEX NAME)

PAGE 1-A



PAGE 1-B

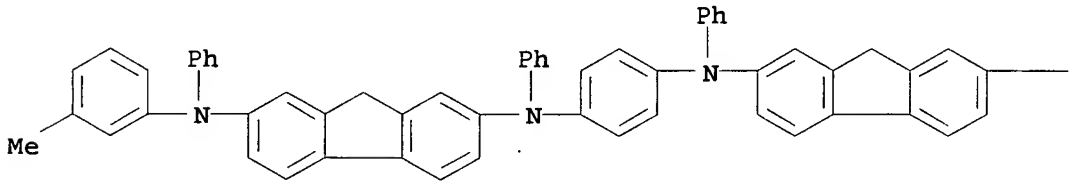


IT **354987-47-6P 354987-50-1P 354987-52-3P**
354987-71-6P
(amine compound for organic electroluminescent device showing longer **luminescent** lifetime and excellent durability)

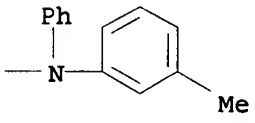
RN 354987-47-6 HCAPLUS

CN 9H-Fluorene-2,7-diamine, N,N''-1,4-phenylenebis[N'-(3-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



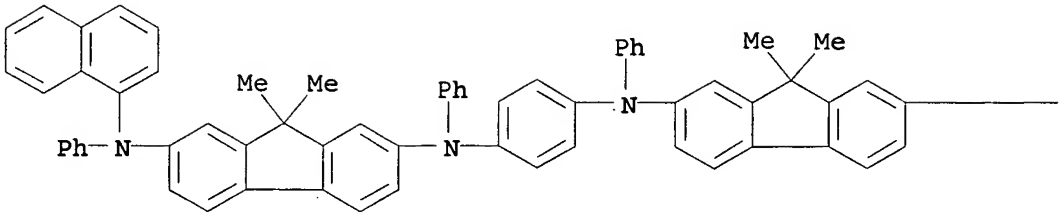
PAGE 1-B



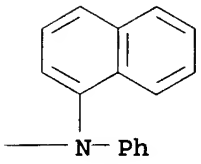
RN 354987-50-1 HCAPLUS

CN 9H-Fluorene-2,7-diamine, N,N''-1,4-phenylenebis[9,9-dimethyl-N'-1-naphthalenyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

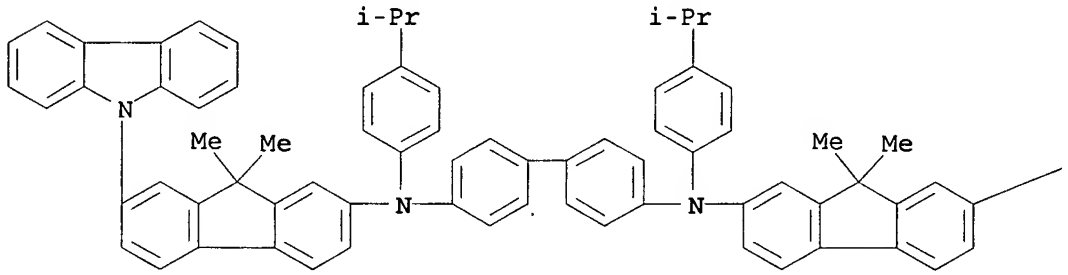


PAGE 1-B

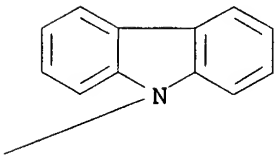


RN 354987-52-3 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis[7-(9H-carbazol-9-yl)-9,9-dimethyl-9H-fluoren-2-yl]-N,N'-bis[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

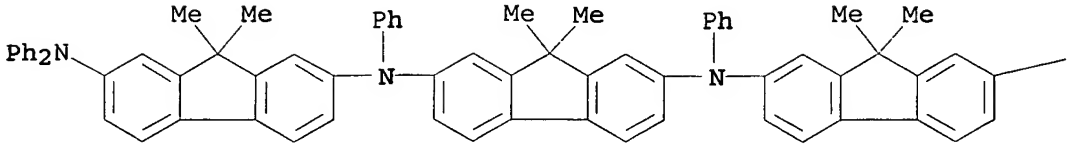


PAGE 1-B



RN 354987-71-6 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N,N'-bis[7-(diphenylamino)-9,9-dimethyl-9H-fluoren-2-yl]-9,9-dimethyl-N,N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

—NPh2

IC ICM C07C211-61
ICS C07C217-94; C07D209-86; C07D213-74; C07D265-38; C07D279-26; C07D333-36; C09K011-06; H05B033-14; H05B033-22
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
IT 354987-33-0 354987-34-1 354987-35-2 354987-37-4
354987-38-5 354987-40-9 354987-41-0 354987-44-3
354987-45-4 **354987-48-7** **354987-49-8**
354987-51-2 354987-53-4 354987-54-5 354987-56-7
354987-57-8 **354987-59-0** 354987-60-3 354987-61-4
354987-63-6 354987-64-7 354987-65-8 354987-66-9
354987-69-2 354987-70-5 354987-72-7 354987-73-8
(amine compound for organic electroluminescent device showing longer **luminescent** lifetime and excellent durability)
IT 354987-31-8P 354987-32-9P 354987-36-3P 354987-39-6P
354987-42-1P 354987-43-2P 354987-46-5P **354987-47-6P**
354987-50-1P **354987-52-3P** 354987-55-6P
354987-58-9P 354987-62-5P 354987-67-0P **354987-71-6P**
(amine compound for organic electroluminescent device showing longer **luminescent** lifetime and excellent durability)

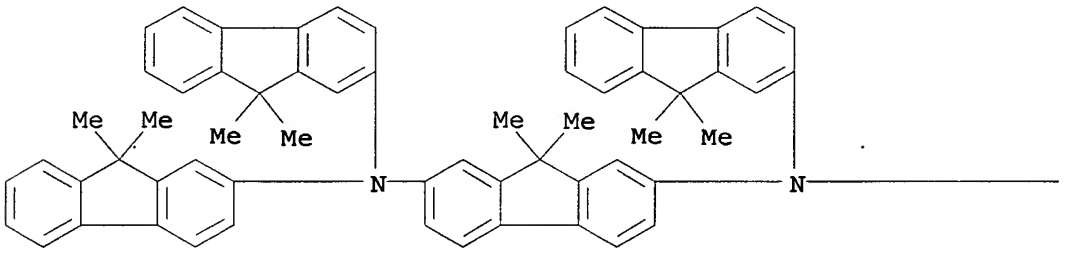
L37 ANSWER 32 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:557950 HCAPLUS
DOCUMENT NUMBER: 135:264256
TITLE: Effect of ionization potential of hole transport layer on device characteristics of organic **light emitting** diode with oxygen plasma treated indium tin oxide
AUTHOR(S): Hashimoto, Yuichi; Hamagaki, Manabu; Sakakibara, Takeshi
CORPORATE SOURCE: OD Project, Canon Inc., Ohta-ku, Tokyo, 146-8501, Japan
SOURCE: Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (**2001**), 40(7), 4720-4725
CODEN: JAPNDE; ISSN: 0021-4922
PUBLISHER: Japan Society of Applied Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We have investigated the contribution of the oxygen ions and electrons, and of the kinetic energy of these species on oxygen plasma treatment of indium tin oxide (ITO) electrode. In the case

of the treatment by pos. oxygen ions with kinetic energy of 50 eV, the **luminance** increased markedly with a lowering of the operating voltage in the organic **light emitting** diode (**OLED**). The change in the device characteristics was attributed to an effective removal of organic contaminants from the ITO surface, leading to enhanced hole injection from ITO to a hole transport layer (HTL) due to an increase in work function of the ITO. Moreover, the highest **luminance** and **luminous** efficiency were obtained in the **OLED** having HTL with ionization potential of 5.4 eV. These results have suggested that OLEDs fabricated using the oxygen plasma treated ITO can give the best device performance by the selection of an optimum HTL.

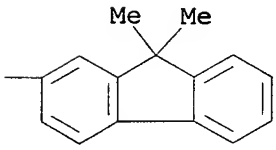
IT **216454-35-2 361486-60-4**
(hole transport layer; effect of ionization potential of hole transport layer on device characteristics of organic **light emitting** diode with oxygen plasma treated indium tin oxide)

RN 216454-35-2 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N,N,N',N'-tetrakis(9,9-dimethyl-9H-fluoren-2-yl)-9,9-dimethyl- (9CI) (CA INDEX NAME)

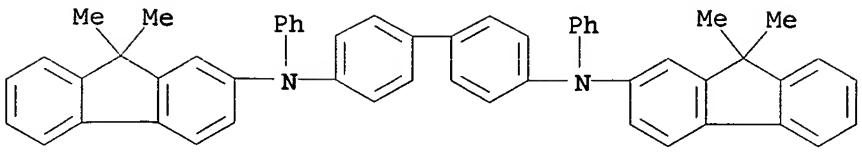
PAGE 1-A



PAGE 1-B



RN 361486-60-4 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(9,9-dimethyl-9H-fluoren-2-yl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
IT Electroluminescent devices
Hole (electron)
Ionization potential
Plasma
Work function
(effect of ionization potential of hole transport layer on device characteristics of organic **light emitting** diode with oxygen plasma treated indium tin oxide)
IT 50926-11-9, ITO
(effect of ionization potential of hole transport layer on device characteristics of organic **light emitting** diode with oxygen plasma treated indium tin oxide)
IT 7782-44-7, Oxygen, processes
(effect of ionization potential of hole transport layer on device characteristics of organic **light emitting** diode with oxygen plasma treated indium tin oxide)
IT 58328-31-7 123847-85-8 143886-11-7 **216454-35-2** **361486-60-4**
(hole transport layer; effect of ionization potential of hole transport layer on device characteristics of organic **light emitting** diode with oxygen plasma treated indium tin oxide)
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

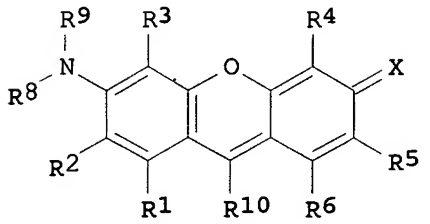
L37 ANSWER 33 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:772712 HCAPLUS
DOCUMENT NUMBER: 133:336549
TITLE: Xanthene **dyes** and their application as **luminescence** quenching compounds
INVENTOR(S): Haugland, Richard P.; Singer, Victoria L.; Yue, Stephen T.
PATENT ASSIGNEE(S): Molecular Probes, Inc., USA
SOURCE: PCT Int. Appl., 66 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000064988	A1	20001102	WO 2000-US10740	2000 0421

<--

W: AU, CA, JP
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,

MC, NL, PT, SE
CA 2335359 AA 20001102 CA 2000-2335359
2000
0421
<--
EP 1090073 A1 20010411 EP 2000-926217
2000
0421
<--
EP 1090073 B1 20030305
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
US 6399392 B1 20020604 US 2000-556464
2000
0421
<--
AU 751168 B2 20020808 AU 2000-44781
2000
0421
<--
AT 233795 E 20030315 AT 2000-926217
2000
0421
<--
PRIORITY APPLN. INFO.: US 1999-130808P P
1999
0423
<--
WO 2000-US10740 W
2000
0421
<--
OTHER SOURCE(S): MARPAT 133:336549
GI



I

AB The quenching compds. are N-substituted xanthenes that are substituted by ≥1 (hetero)aromatic quenching moieties. Chemical reactive quenching compds. of this structure possess utility for labeling a wide variety of substances, including biomols. The labeled substances are useful for a variety of energy-transfer assays and applications. Specifically the quenching compds. have the structure I [R2-R5 = H, F, Cl, Br, I, CN, C1-18 alkyl, C1-18 alkoxy, CO2R, SO3M; M = H, cation; R = H, cation, C1-6 alkyl; R1, R6 = H or R1R2 and/or R5R6 complete a 6-membered aromatic ring; R8, R9 = H, organic group, or form a 5- or 6-membered ring with each other or with R2 and/or R3, resp.; R10 = H, organic group; X = O, +NR11R12; R11, R12 are defined analogously to R8, R9], in which ≥1 of R8-R12 contains a group with fluorescence quenching

ability and ≥1 of R8-R12 contains a conjugated biol. substance or a group reactive in conjugation with biomols.

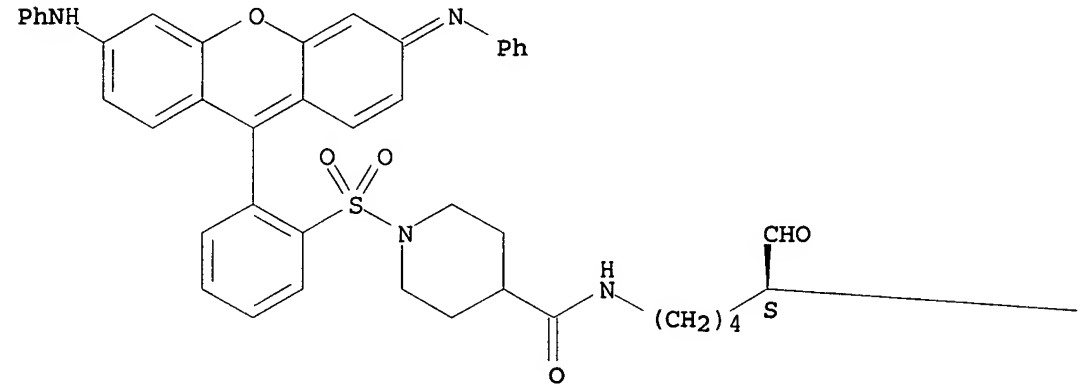
IT **304014-26-4P**
(preparation of xanthene **dyes** as **luminescence** quenching labels)

RN 304014-26-4 HCAPLUS

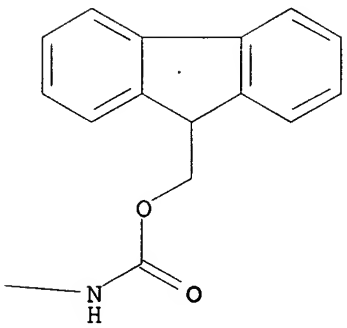
CN Carbamic acid, [(1S)-1-formyl-5-[[[1-[[2-[6-(phenylamino)-3-(phenylimino)-3H-xanthen-9-yl]phenyl]sulfonyl]-4-piperidinyl]carbonyl]amino]pentyl]-, 9H-fluoren-9-ylmethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A



PAGE 1-B



IC ICM C09B011-24
ICS G01N033-533; G01N033-58; G01N033-542; C12Q001-68; C07H021-00; C09B011-02; C12Q001-34; C12Q001-37

CC 41-5 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 9

ST xanthene deriv **luminescence** quenching; fluorescence resonance energy transfer assay

IT Drugs
(conjugates with fluorescence-quenching xanthene **dye**

derivs.; xanthene **dyes** and their application as **luminescence** quenching compds.)

IT Amino acids, uses
Carbohydrates, uses
Lipids, uses
Peptides, uses
Proteins, general, uses
(conjugates with fluorescence-quenching xanthene **dye** derivs.; xanthene **dyes** and their application as **luminescence** quenching compds.)

IT Oligonucleotides
(conjugation with fluorescence-quenching xanthene **dyes**)

IT Avidins
(fluorescence quenching of fluorescent **dye**-labeled)

IT Fluorescence quenching
(fluorescence quenching of fluorescent **dye**-labeled biomols. with xanthene **dyes**)

IT Albumins, properties
(serum, bovine; fluorescence quenching of fluorescent **dye**-labeled)

IT 9013-20-1, Streptavidin
(fluorescence quenching of fluorescent **dye**-labeled)

IT 6359-23-5 60275-23-2 60275-61-8 304014-02-6 304014-03-7 304014-04-8 304014-05-9 304014-06-0 304014-07-1
(preparation of xanthene **dyes** as **luminescence** quenching compds.)

IT 60275-20-9 60275-57-2 81189-41-5
(preparation of xanthene **dyes** as **luminescence** quenching compds.)

IT 4606-65-9, 3-Piperidinemethanol
(preparation of xanthene **dyes** as **luminescence** quenching compds.)

IT 304014-08-2P
(preparation of xanthene **dyes** as **luminescence** quenching compds.)

IT 304014-12-8P
(preparation of xanthene **dyes** as **luminescence** quenching labels)

IT 304014-13-9P 304014-17-3P 304014-18-4P 304014-27-5P 304014-28-6P 304014-29-7P
(preparation of xanthene **dyes** as **luminescence** quenching labels)

IT 304014-09-3P 304014-21-9P 304014-23-1P **304014-26-4P** 304014-30-0P
(preparation of xanthene **dyes** as **luminescence** quenching labels)

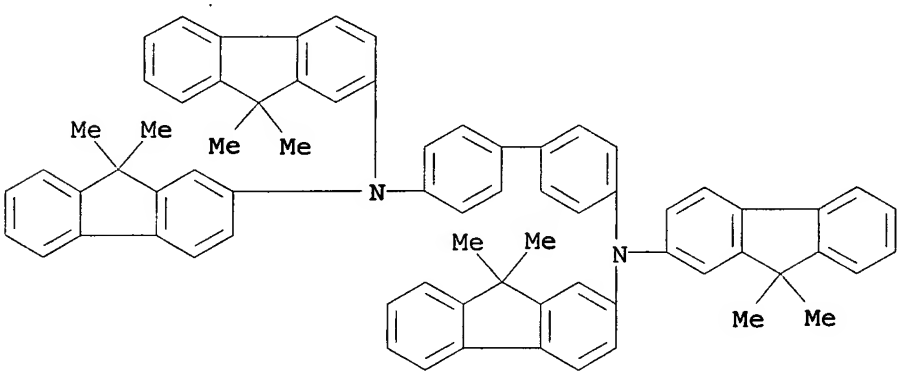
IT 304014-14-0P
(preparation of xanthene **dyes** as **luminescence** quenching labels)

IT 85-44-9, 1,3-Isobenzofurandione 100-61-8, N-Methylaniline, reactions 101-18-8, 3-Hydroxydiphenylamine 498-94-2, Isonipecotic acid 1126-09-6, Ethyl isonipecotate 50347-17-6, 6-(Methylamino)-1-hexanol 51644-96-3 132133-40-5 217075-10-0 222159-87-7 288259-39-2 304014-11-7 304014-15-1 304014-19-5 304014-24-2 304014-25-3
(preparation of xanthene **dyes** as **luminescence** quenching labels)

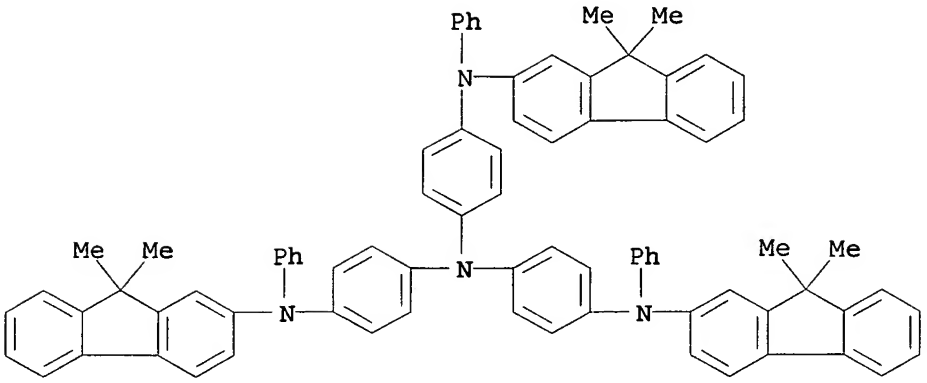
IT 304014-16-2P 304014-20-8P 304014-22-0P
(preparation of xanthene **dyes** as **luminescence**

quenching labels)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 34 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:651062 HCAPLUS
DOCUMENT NUMBER: 133:327402
TITLE: New hole-transporting amorphous molecular materials with high glass-transition temperatures for organic light-emitting diodes
AUTHOR(S): Okumoto, Kenji; Shirota, Yasuhiko
CORPORATE SOURCE: Department of Applied Chemistry, Faculty of Engineering, Osaka University, Suita, 565-0871, Japan
SOURCE: Chemistry Letters (**2000**), (9), 1034-1035
CODEN: CMLTAG; ISSN: 0366-7022
PUBLISHER: Chemical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
AB New hole-transporting amorphous mol. materials with high glass-transition temps. (Tgs), 4,4',4"-tris[9,9-dimethyl-2-fluorenyl(phenyl)amino]triphenylamine (TFATA) and N,N,N',N'-tetrakis(9,9-dimethyl-2-fluorenyl)[1,1'-biphenyl]-4,4'-diamine (FFD), were developed. TFATA and FFD exhibit hole drift mobilities of 1.7 + 10-5 and 4.1 + 10-3 cm2V-1s-1, resp., at 293 K at an elec.-field of 1.0 + 105 Vcm-1 in their amorphous glasses. These materials permit the fabrication of thermally stable, high-performance organic light emitting diodes.
IT **216454-28-3 303111-06-0**
(new hole-transporting amorphous mol. materials with high glass-transition temps. for organic **light-emitting** diodes)
RN 216454-28-3 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-diamine, N,N,N',N'-tetrakis(9,9-dimethyl-9H-fluoren-2-yl)- (9CI) (CA INDEX NAME)



RN 303111-06-0 HCAPLUS
CN 1,4-Benzenediamine, N-(9,9-dimethyl-9H-fluoren-2-yl)-N',N'-bis[4-[(9,9-dimethyl-9H-fluoren-2-yl)phenylamino]phenyl]-N-phenyl- (9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 22, 76
IT **216454-28-3 303111-06-0**
(new hole-transporting amorphous mol. materials with high glass-transition temps. for organic **light-emitting** diodes)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

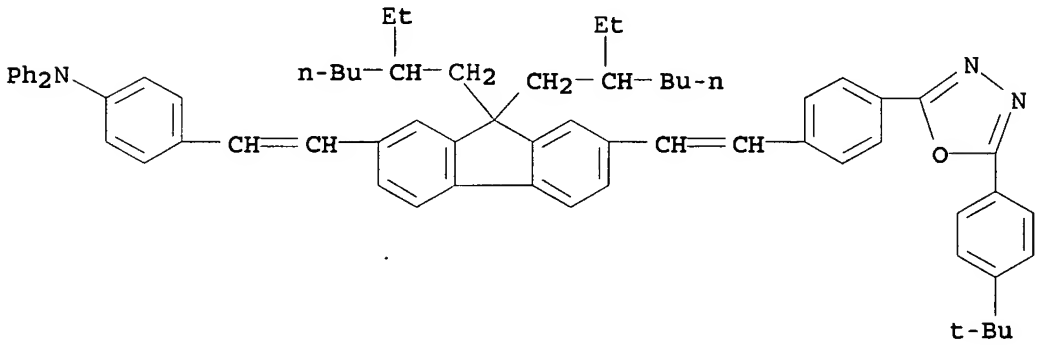
L37 ANSWER 35 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:334226 HCAPLUS
DOCUMENT NUMBER: 133:81276
TITLE: New class of **light-emitting** polymers/oligomers
AUTHOR(S): Kim, Oh-Kil; Woo, Hanyoung; Kim, Jai Kyeong; Huang, Z.
CORPORATE SOURCE: Chemistry Div., Naval Research Lab., Washington, DC, USA
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (**2000**), 3955(Liquid Crystal Materials, Devices, and Flat Panel Displays), 134-140
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Novel electro-/photoactive multifunctional **dyes** were synthesized based on dithienothiophene, DTT (π-center), linked by an electron D/D - or D/A pair segment; D-π-D (**dye** 1) or D-π-A (**dye** 2), to develop efficient bipolar **light-emitting** (LE) materials capable of balanced electron/hole capture in a single-layer LE device. A strong bipolarity manifested by electrochem. amphotericity was observed notably with **dye** 1, which cannot be accounted for without the involvement of the π-center, leading to the low HOMO/LUMO energy-gap and a small difference in the energy-gap between **dye** 1 and **dye** 2. Single-layer LE devices were fabricated by making a blend based on the **dye** (0.5%), PVK (70%) as matrix and PBD (30%) as electron-transporting/hole blocking material, and by sandwiching between ITO and Al electrodes. PL intensity of the **dyes** by excitation at 440-450 nm (λ max) is much weaker compared to

that at 340 nm (exciting mainly PVK), suggesting that the excitation of the **dyes** occur by energy-transfer from PVK. When compared PL intensities between the 2 **dyes** at a concentration <1%, **dye** 1 is slightly higher relative to **dye** 2. But the **EL** intensity shows an opposite trend in that **dye** 2 is much higher relative to **dye** 1 under the same condition. This implies that unlike the PL, the **EL** is not due to the transfer of the excited-energy from PVK but carrier trapping/exciton formation on the **dye** chromophore, and that **dye** 2 is strongly bipolar and thus more capable of balanced carrier capture.

IT **279675-91-1P 279675-93-3P**
(**dye**; new class of **light-emitting** polymers/oligomers with **luminescence** and LEDs)

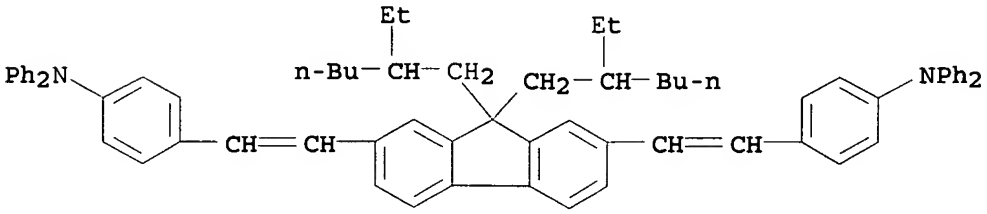
RN 279675-91-1 HCAPLUS

CN Benzenamine, 4-[2-[7-[2-[4-[5-[4-(1,1-dimethylethyl)phenyl]-1,3,4-oxadiazol-2-yl]phenyl]ethenyl]-9,9-bis(2-ethylhexyl)-9H-fluoren-2-yl]ethenyl]-N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 279675-93-3 HCAPLUS

CN Benzenamine, 4,4'-[[9,9-bis(2-ethylhexyl)-9H-fluorene-2,7-diyl]di-2,1-ethenediyl]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 27, **41**

ST **dye** polymer vinyl carbazole **luminescence** electroluminescence LED energy transfer; exciton formation **dye** polymer vinyl carbazole **luminescence**; carrier trapping **dye** polymer vinyl carbazole **luminescence**; thienothiophene **dye** polymer vinylcarbazole **luminescence** electroluminescence LED energy transfer; substituent thienothiophene polymer

vinylcarbazole **luminescence** electroluminescence LED
energy transfer; thiophene dithieno vinylcarbazole polymer
luminescence electroluminescence LED energy transfer

IT **Dyes**
Electroluminescent devices
Energy transfer
Exciton
Luminescence
Luminescence, electroluminescence
Substituent effects
Trapping
(new class of **light-emitting**
polymers/oligomers with **luminescence** and LEDs)

IT 261163-34-2P 261163-35-3P 261163-36-4P 261163-37-5P
279675-91-1P 279675-93-3P
(**dye**; new class of **light-emitting**
polymers/oligomers with **luminescence** and LEDs)

IT 7429-90-5, Aluminum, uses 50926-11-9, ITO
(electrode; new class of **light-emitting**
polymers/oligomers with **luminescence** and LEDs)

IT 25067-59-8, Poly(N-vinylcarbazole)
(matrix; new class of **light-emitting**
polymers/oligomers with **luminescence** and LEDs)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 36 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:312491 HCAPLUS
DOCUMENT NUMBER: 133:90722
TITLE: Synthesis and characterization of a perylene-based **luminescent** organic glass
AUTHOR(S): Belfield, Kevin D.; Schafer, Katherine J.; Alexander, Max D. Jr.
CORPORATE SOURCE: Department of Chemistry, University of Central Florida, Orlando, FL, 32816-2366, USA
SOURCE: Chemistry of Materials (**2000**), 12(5), 1184-1186
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

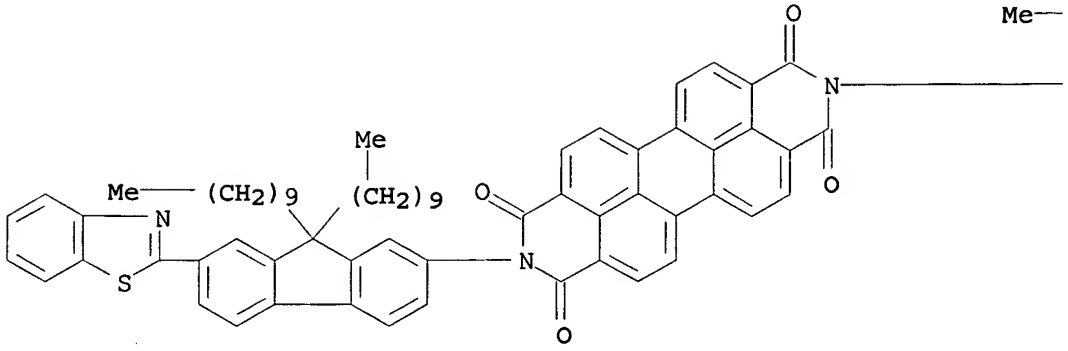
AB The red **dye** N,N'-bis[7-(2-benzothiazolyl)-9,9-didecyl-2-fluorenyl]perylenetetracarboxylic diimide (I) was prepared from perylenetetracarboxylic dianhydride and 7-(2-benzothiazolyl)-9,9-didecyl-2-fluorenylamine. Photoluminescence studies of I showed that it underwent intramol. energy transfer from the fluorenyl moiety to the perylene ring system upon excitation with long-wavelength UV light. I should provide broad band 2-photon absorption in the ranges of 600-770 and 820-1090 nm. I had no clear melting or crystallization transitions, while showing .apprx.4% weight loss at 380°. Good solubility was noted in common organic solvents.

IT **280768-22-1P**
(preparation and characterization of perylene-based **luminescent organic** glass)

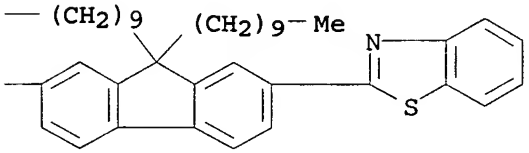
RN 280768-22-1 HCAPLUS
CN Anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-1,3,8,10(2H,9H)-tetrone, 2,9-bis[7-(2-benzothiazolyl)-9,9-didecyl-9H-fluoren-2-yl]-

(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



CC 41-5 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 73
ST **dye** fluorescent perylene based prepn
IT Two-photon absorption
(by perylene-based **luminescent organic** glass)
IT Intramolecular energy transfer
(in characterization of perylene-based **luminescent organic** glass)
IT Fluorescence
Fluorescent **dyes**
UV and visible spectra
(preparation and characterization of perylene-based **luminescent organic** glass)
IT **280768-22-1P**
(preparation and characterization of perylene-based **luminescent organic** glass)
IT 128-69-8 262607-30-7, 7-(2-Benzothiazolyl)-9,9-didecyl-2-fluorenylamine
(starting material; preparation and characterization of perylene-based **luminescent organic** glass)
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

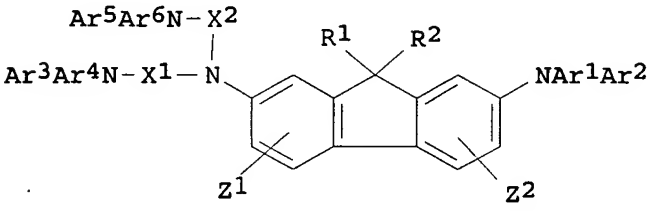
L37 ANSWER 37 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:394828 HCAPLUS
DOCUMENT NUMBER: 131:80579
TITLE: Organic electric-field light-emitting device containing fluorene derivative
INVENTOR(S): Nakatsuka, Masakatsu; Kitamoto, Noriko

PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 65 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11167992	A2	19990622	JP 1997-335859	19971205 <--

PRIORITY APPLN. INFO.: JP 1997-335859 19971205 <--

OTHER SOURCE(S): MARPAT 131:80579
GI



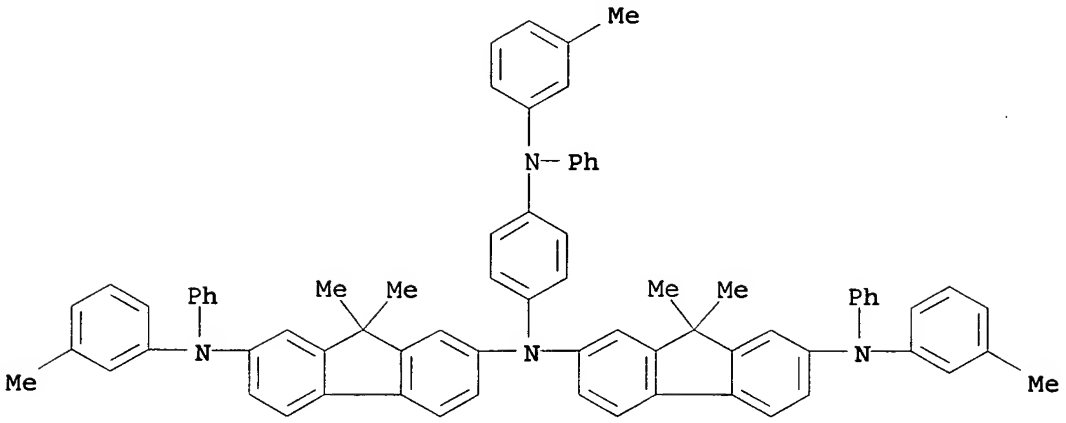
I

AB The device has a pair of electrodes sandwiching a layer containing a fluorene compound I (Ar1-6 = aryl; Ar1 and Ar2, Ar3 and Ar4, and Ar5 and Ar6 may bond to form a heterocyclic; R1, 2 = H, linear, branched, or cyclic alkyl, aryl, aralkyl; Z1, 2 = H, halogen, linear, branched, or cyclic alkyl, linear branched, or cyclic alkoxy, aryl; X1, 2 = arylene). The device shows long life and excellent durability.

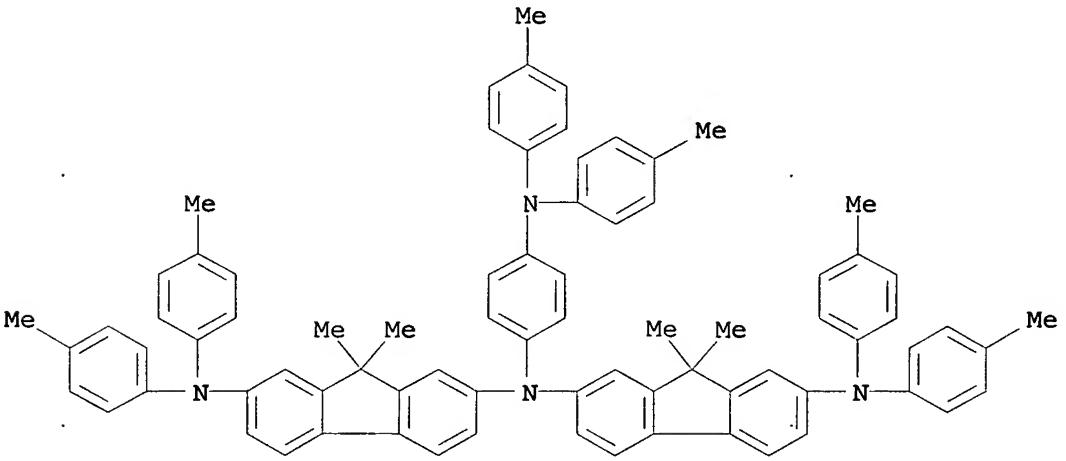
IT **228706-81-8 228706-82-9 228706-83-0**
228706-84-1 228706-85-2 228706-86-3
228706-87-4 228706-88-5 228706-89-6
228706-90-9 228706-92-1
(organic elec.-field **light-emitting** device containing fluorene derivative)

RN 228706-81-8 HCAPLUS

CN 9H-Fluorene-2,7-diamine, N-[9,9-dimethyl-2-[(3-methylphenyl)phenylamino]-9H-fluoren-7-yl]-9,9-dimethyl-N'-(3-methylphenyl)-N-[4-[(3-methylphenyl)phenylamino]phenyl]-N'-phenyl- (9CI) (CA INDEX NAME)

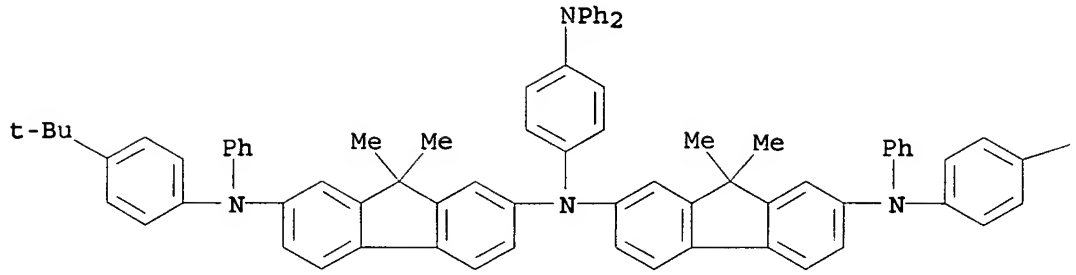


RN 228706-82-9 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N-[2-[bis(4-methylphenyl)amino]-9,9-dimethyl-9H-fluoren-7-yl]-N-[4-[bis(4-methylphenyl)amino]phenyl]-9,9-dimethyl-N',N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 228706-83-0 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N-[4-(1,1-dimethylethyl)phenyl]-N'-[2-[[4-(1,1-dimethylethyl)phenyl]phenylamino]-9,9-dimethyl-9H-fluoren-7-yl]-N'-[4-(diphenylamino)phenyl]-9,9-dimethyl-N-phenyl- (9CI) (CA INDEX NAME)

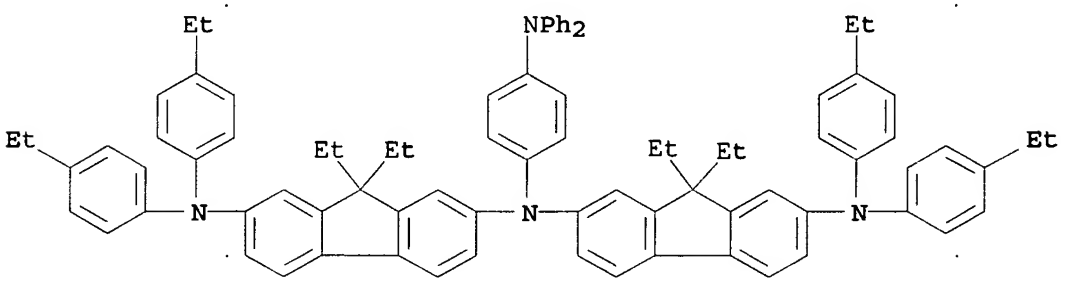
PAGE 1-A



PAGE 1-B

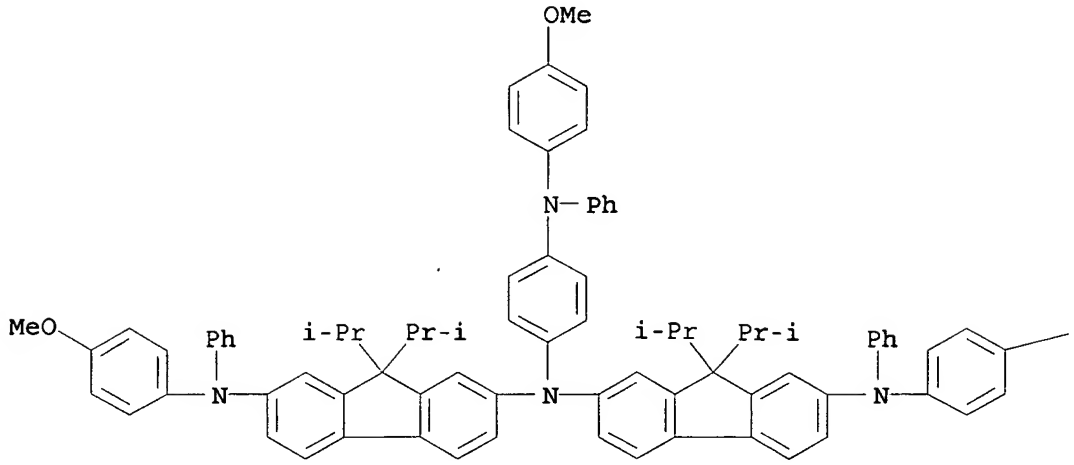
Bu-t

RN 228706-84-1 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N-[7-[bis(4-ethylphenyl)amino]-9,9-diethyl-9H-fluoren-2-yl]-N-[4-(diphenylamino)phenyl]-9,9-diethyl-N',N'-bis(4-ethylphenyl)- (9CI) (CA INDEX NAME)



RN 228706-85-2 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N-(4-methoxyphenyl)-N'-[7-[(4-methoxyphenyl)phenylamino]-9,9-bis(1-methylethyl)-9H-fluoren-2-yl]-N'-[4-[(4-methoxyphenyl)phenylamino]phenyl]-9,9-bis(1-methylethyl)-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

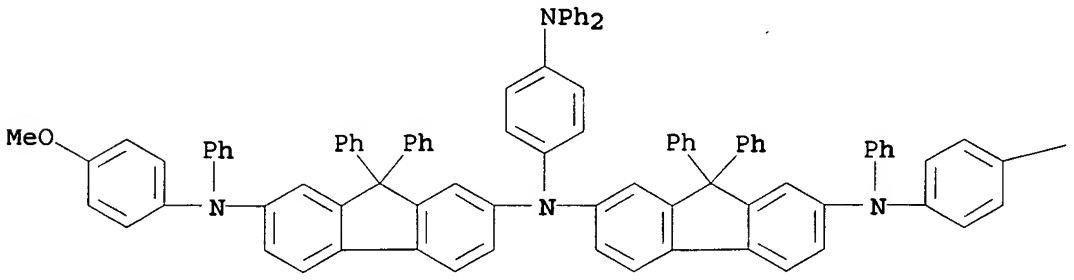


PAGE 1-B

— OMe

RN 228706-86-3 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N-[4-(diphenylamino)phenyl]-N'-(4-methoxyphenyl)-N-[7-[(4-methoxyphenyl)phenylamino]-9,9-diphenyl-9H-fluoren-2-yl]-N',9,9-triphenyl- (9CI) (CA INDEX NAME)

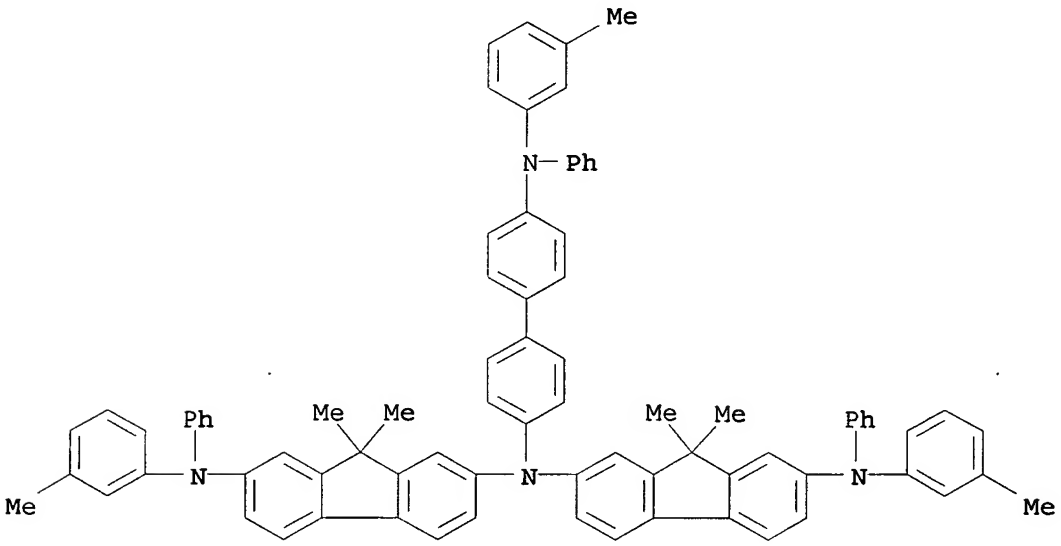
PAGE 1-A



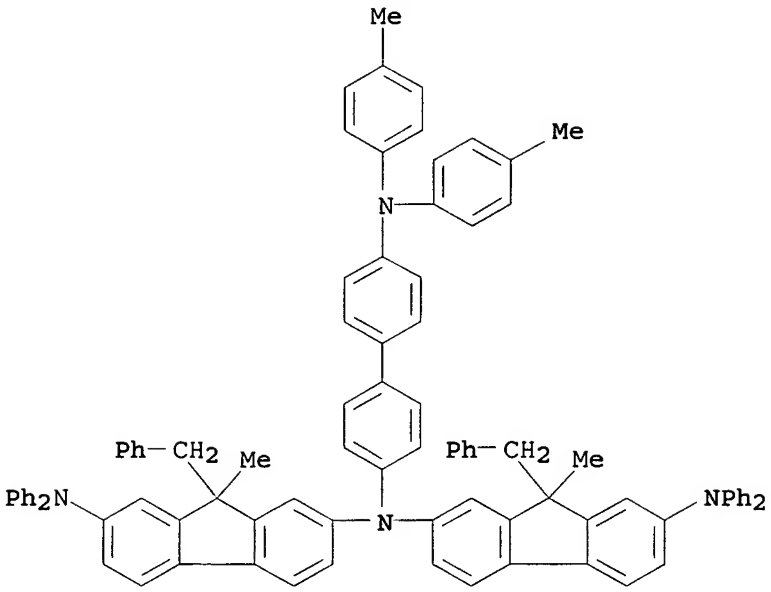
PAGE 1-B

— OMe

RN 228706-87-4 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N-[9,9-dimethyl-2-[(3-methylphenyl)phenylamino]-9H-fluoren-7-yl]-9,9-dimethyl-N'-(3-methylphenyl)-N-[4'-[(3-methylphenyl)phenylamino][1,1'-biphenyl]-4-yl]-N'-phenyl- (9CI) (CA INDEX NAME)

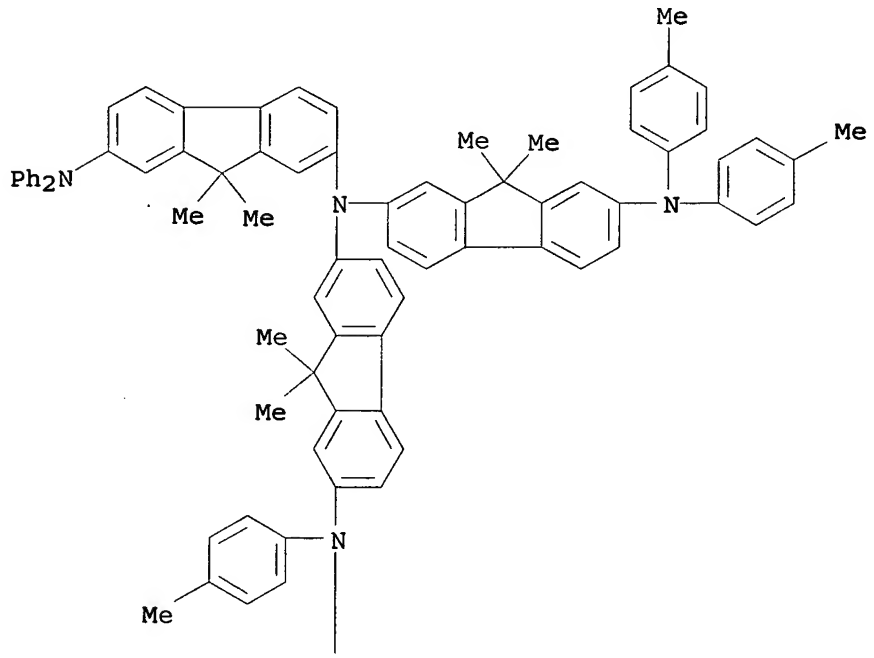


RN 228706-88-5 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N-[4'-[bis(4-methylphenyl)amino][1,1'-biphenyl]-4-yl]-N-[7-(diphenylamino)-9-methyl-9-(phenylmethyl)-9H-fluoren-2-yl]-9-methyl-N',N'-diphenyl-9-(phenylmethyl)- (9CI) (CA INDEX NAME)

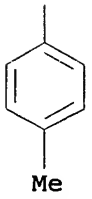


RN 228706-89-6 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N,N-bis[2-[bis(4-methylphenyl)amino]-9,9-dimethyl-9H-fluoren-7-yl]-9,9-dimethyl-N',N'-diphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

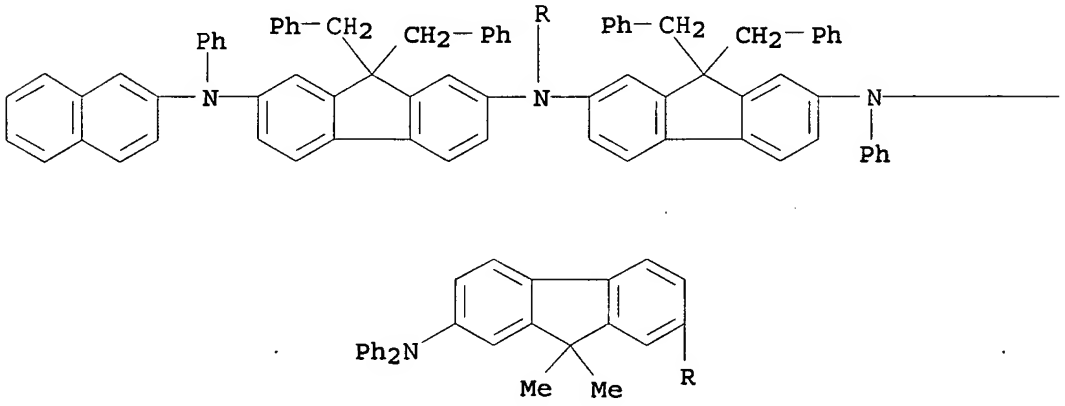


PAGE 2-A

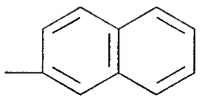


RN 228706-90-9 HCAPLUS
CN 9H-Fluorene-2,7-diamine, 9,9-dimethyl-N,N-bis[7-(2-naphthalenylphenylamino)-9,9-bis(phenylmethyl)-9H-fluoren-2-yl]-N',N'-diphenyl- (9CI) (CA INDEX NAME)

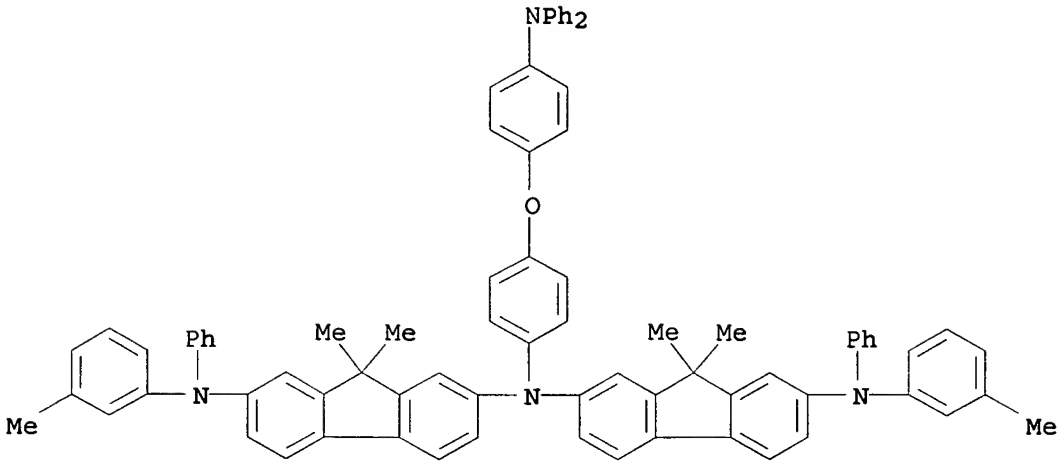
PAGE 1-A



PAGE 1-B



RN 228706-92-1 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N-[9,9-dimethyl-2-[(3-methylphenyl)phenylamino]-9H-fluoren-7-yl]-N-[4-[4-(diphenylamino)phenoxy]phenyl]-9,9-dimethyl-N'-(3-methylphenyl)-N'-phenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-22
ICS C09K011-06; H05B033-14
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
IT 228706-59-0 228706-60-3 228706-61-4 228706-62-5
228706-63-6 228706-64-7 228706-65-8 228706-66-9
228706-67-0 228706-68-1 228706-69-2 228706-70-5
228706-71-6 228706-72-7 228706-73-8 228706-74-9
228706-75-0 228706-76-1 228706-77-2 228706-78-3
228706-79-4 228706-80-7 **228706-81-8**
228706-82-9 228706-83-0 228706-84-1
228706-85-2 228706-86-3 228706-87-4
228706-88-5 228706-89-6 228706-90-9
228706-91-0 **228706-92-1** 228706-93-2
(organic elec.-field **light-emitting** device containing fluorene derivative)

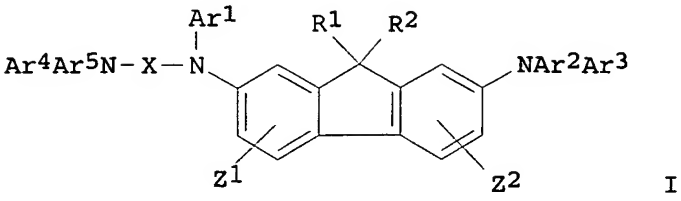
L37 ANSWER 38 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:365941 HCAPLUS
DOCUMENT NUMBER: 131:65686
TITLE: Organic electroluminescent device containing diaminofluorene derivative
INVENTOR(S): Nakatsuka, Masakatsu; Kitamoto, Noriko
PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 37 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11154594	A2	19990608	JP 1997-319996	1997 1120
			<--	
JP 3792027	B2	20060628		
PRIORITY APPLN. INFO.:			JP 1997-319996	1997

1120

<--

OTHER SOURCE(S): MARPAT 131:65686
GI

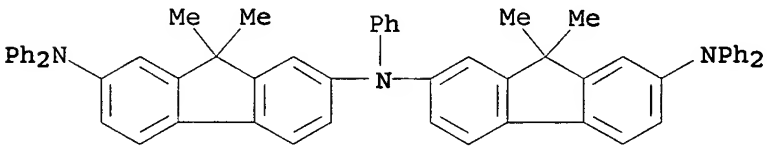


I

AB The electroluminescent device has a layer containing a diaminofluorene derivative I [Ar1-5 = (substituted) aryl; Ar2 and Ar3 and/or Ar4 and Ar5 may form an azacyclic group; R1, R2 = H, linear, branched, or cyclic alkyl, (substituted) aryl, (substituted) aralkyl; Z1, Z2 = H, halo, linear, branched, or cyclic alkyl, linear, branched, or cyclic alkoxy, (substituted) aryl; X = (substituted) arylene] between a pair of electrodes. The device shows long service life and improved durability in repeated use.

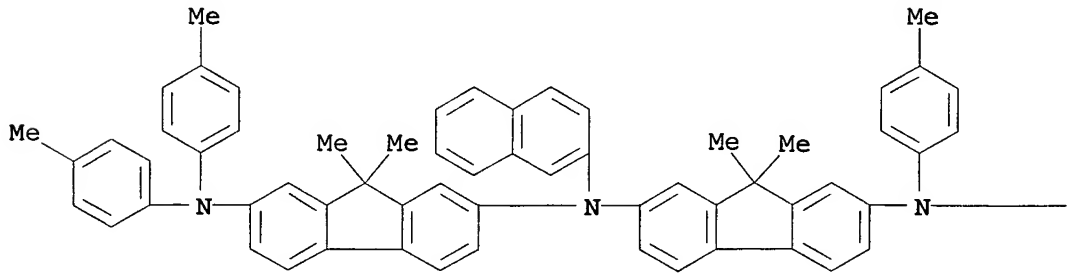
IT **227939-31-3 227939-37-9 227939-45-9**
(**light-emitting** layer; electroluminescent device containing diaminofluorene derivative with long service life)

RN 227939-31-3 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N-[2-(diphenylamino)-9,9-dimethyl-9H-fluoren-7-yl]-9,9-dimethyl-N,N',N'-triphenyl- (9CI) (CA INDEX NAME)

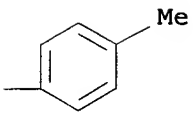


RN 227939-37-9 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N-[2-[bis(4-methylphenyl)amino]-9,9-dimethyl-9H-fluoren-7-yl]-9,9-dimethyl-N',N'-bis(4-methylphenyl)-N-2-naphthalenyl- (9CI) (CA INDEX NAME)

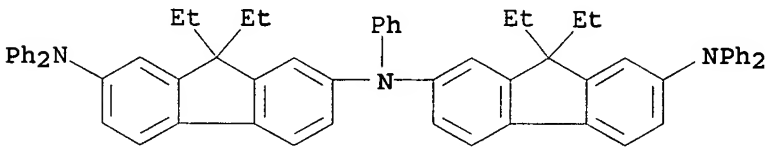
PAGE 1-A



PAGE 1-B



RN 227939-45-9 HCAPLUS
CN 9H-Fluorene-2,7-diamine, N-[7-(diphenylamino)-9,9-diethyl-9H-fluoren-2-yl]-9,9-diethyl-N,N',N'-triphenyl- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
IT 227938-99-0 227939-11-9 **227939-31-3**
227939-37-9 227939-45-9
(**light-emitting** layer; electroluminescent device containing diaminofluorene derivative with long service life)

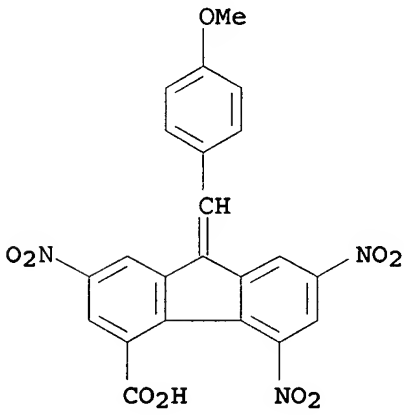
L37 ANSWER 39 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:189673 HCAPLUS
DOCUMENT NUMBER: 131:94255
TITLE: Unusual temperature dependences of the photoconductivity and recombination luminescence of amorphous molecular semiconductors doped with ionic **dyes**
AUTHOR(S): Davidenko, N. A.; Ishchenko, A. A.; Kadashchuk, A. K.; Kuvshinskii, N. G.; Ostapenko, N. I.; Skryshevskii, Yu. A.
CORPORATE SOURCE: T. G. Shevchenko Kiev State University, Kiev, 252033, Ukraine
SOURCE: Physics of the Solid State (Translation of Fizika Tverdogo Tela (Sankt-Peterburg)) (**1999**), 41(2), 179-184
CODEN: PSOSED; ISSN: 1063-7834
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A nonexponential increase in photocond. with increasing temperature is discovered for poly(N-epoxypropylcarbazole) (PEPK) films doped with polymethine **dyes.** Traps for nonequil. charge carriers may form in these films during irradiation and are destroyed as the temperature is raised. Such traps are manifested by broadening of the high-temperature shoulder on the thermally stimulated luminescence (TSL) curves following the preliminary irradiation of

PEPK films doped with polymethine and xanthene ionic **dyes** in the visible or UV range at 250-320 K and by the appearance of a new narrow TSL maximum near the preliminary irradiation temperature These TSL features disappear after prolonged storage of the films in the dark or heating to higher temps.

IT **164986-85-0**
(intramol. charge transfer compound; unusual temperature dependences of photocond. and recombination **luminescence** of amorphous mol. semiconductors doped with)

RN 164986-85-0 HCAPLUS

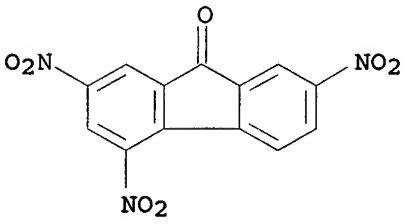
CN 9H-Fluorene-4-carboxylic acid, 9-[(4-methoxyphenyl)methylene]-2,5,7-trinitro- (9CI) (CA INDEX NAME)



IT **129-79-3**, 9H-Fluoren-9-one, 2,4,7-trinitro-
(organic electron acceptor; unusual temperature dependences of photocond. and recombination **luminescence** of amorphous mol. semiconductors doped with)

RN 129-79-3 HCAPLUS

CN 9H-Fluoren-9-one, 2,4,7-trinitro- (9CI) (CA INDEX NAME)



CC 73-6 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

IT Trapping
(charge carrier; in amorphous mol. semiconductors doped with ionic **dye**)

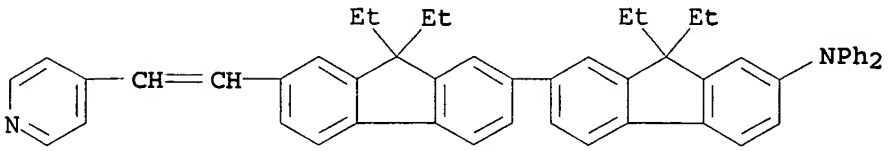
IT Thermoluminescence
(recombination; unusual temperature dependences of amorphous mol. semiconductors doped with ionic **dyes** of)

IT Photoconductivity
(unusual temperature dependences of amorphous mol. semiconductors

doped with ionic **dyes** of)
IT 61575-72-2
(cationic polymethine **dye**; unusual temperature dependences of photocond. and recombination luminescence of amorphous mol. semiconductors doped with)
IT **164986-85-0**
(intramol. charge transfer compound; unusual temperature dependences of photocond. and recombination **luminescence** of amorphous mol. semiconductors doped with)
IT **129-79-3**, 9H-Fluoren-9-one, 2,4,7-trinitro-
(organic electron acceptor; unusual temperature dependences of photocond. and recombination **luminescence** of amorphous mol. semiconductors doped with)
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 40 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:805854 HCAPLUS
DOCUMENT NUMBER: 130:139023
TITLE: Influence of molecular environment on single photon behavior of heterocyclic NLO chromophores and its implications to two-photon behavior
AUTHOR(S): Baur, Jeffery W.; Alexander, Max D., Jr.; Banach, Michael; Reinhardt, Bruce; Prasad, Paras N.; Yaun, Lixiang; Vaia, Richard A.
CORPORATE SOURCE: Materials and Manufacturing Directorate, Air Force Research Laboratory, Wright-Patterson AFB, OH, 45433, USA
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (**1998**), 3472(Nonlinear Optical Liquids for Power Limiting and Imaging), 70-79
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The influence of the solvent environment on linear absorbance and photoluminescence of a series of donor-acceptor heterocyclic chromophores (AF50, AF100, AF60, AF210) was examined The Stoke's shift associated with 1-photon absorbance and photoluminescence was observed to increase with increasing solvent polarity. This behavior is adequately described by the Lippert equation and is related to relaxation of the solvent mols. around an excited mol. Addnl., it was observed that the spectral shape, as well as the solvent dependence, of 2-photon and 1-photon pumped photoluminescence were similar, thus indicating that the longest-lived luminescing excited state is independent of the method of excitation. These results have direct implications to 2-photon applications which rely on up-converted fluorescence. They also yield insight into the structure-property relationships governing their linear and multi-photon behavior including the potential contributions to the effective 2-photon cross-section from excited state absorbance.
IT **209603-59-8**
(mol. environment effect on single photon absorptivity and **luminescence** of heterocyclic NLO chromophores and its implications to 2-photon behavior)
RN 209603-59-8 HCAPLUS

CN [2,2'-Bi-9H-fluoren]-7-amine, 9,9,9',9'-tetraethyl-N,N-diphenyl-7'-[2-(4-pyridinyl)ethenyl]- (9CI) (CA INDEX NAME)

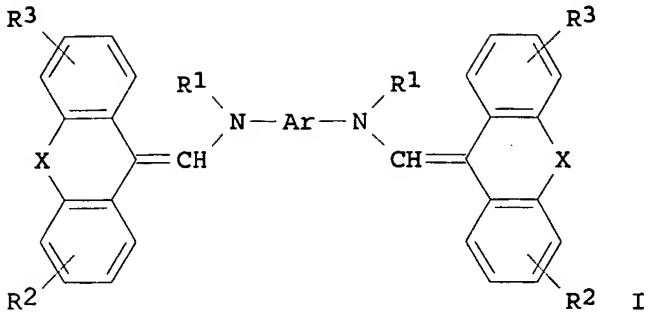


CC 22-9 (Physical Organic Chemistry)
IT 191667-13-7, AF50 197969-56-5, 9H-Fluoren-2-amine, 9,9-diethyl-N,N-diphenyl-7-[2-(4-pyridinyl)ethenyl]- 209603-50-9, 9H-Fluoren-2-amine, 9,9-dihexyl-N,N-diphenyl-7-[2-(4-pyridinyl)ethenyl]- **209603-59-8**
(mol. environment effect on single photon absorptivity and **luminescence** of heterocyclic NLO chromophores and its implications to 2-photon behavior)
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L37 ANSWER 41 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:535943 HCAPLUS
DOCUMENT NUMBER: 129:181918
TITLE: Organic field-electric luminescent device containing enamine compound
INVENTOR(S): Enomoto, Kazuhiro; Kawase, Tokutaka
PATENT ASSIGNEE(S): Sharp Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10219240	A2	19980818	JP 1997-19281 <--	19970131
JP 3514598	B2	20040331		

PRIORITY APPLN. INFO.: JP 1997-19281 <-- 19970131
OTHER SOURCE(S): MARPAT 129:181918
GI



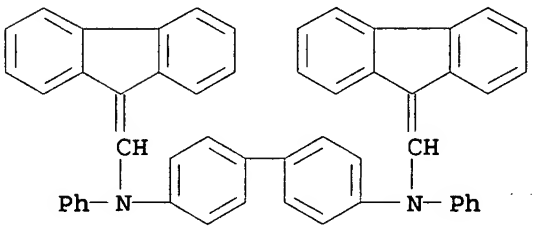
I

AB The device has a substrate successively coated with a cathode, a pos.-hole transporting layer containing an enamine compound I [X = (CH2)n, O, S, C:O; n = 0-2 integer; Ar = methylene, ethylene, C6-20 arylene; R1 = lower alkyl, benzyl, C6-14 aryl, heterocyclic; R2, 3 = H, lower alkyl, lower alkoxy, halo], a light-emitting layer, and an anode. The compound with high glass transition temperature shows crystallization prevention, so that the device shows high luminance and long life.

IT **210628-29-8P 211382-11-5P 211382-13-7P**
(organic electroluminescent device containing enamine compound with high **luminance**)

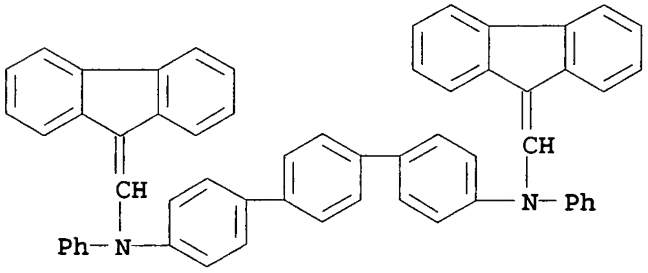
RN 210628-29-8 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis(9H-fluoren-9-ylidenemethyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



RN 211382-11-5 HCAPLUS

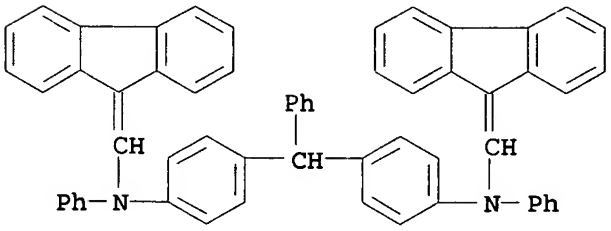
CN [1,1':4',1''-Terphenyl]-4,4''-diamine, N,N'-bis(9H-fluoren-9-ylidenemethyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



RN 211382-13-7 HCAPLUS

CN Benzenamine, 4,4'-(phenylmethylene)bis[N-(9H-fluoren-9-

ylidenemethyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
IT **210628-29-8P 211382-11-5P 211382-13-7P**
(organic electroluminescent device containing enamine compound with high **luminance**)

L37 ANSWER 42 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:41801 HCAPLUS
DOCUMENT NUMBER: 126:67714
TITLE: Electrophotographic method for manufacture of luminescent screen for CRT
INVENTOR(S): Shin, Dong Ky; Lee, Bok Soo; Yoon, Sang Youl
PATENT ASSIGNEE(S): Orion Electric Co., Ltd., S. Korea; Shin, Dong Ky; Lee, Bok Soo; Yoon, Sang Youl
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9635222	A1	19961107	WO 1996-KR58	19960427
			<--	
W: CN, JP, MX, US, VN				
RW: DE, ES, FR, GB, IT, NL				
US 5827628	A	19981027	US 1997-814255	19970311
			<--	
PRIORITY APPLN. INFO.:			KR 1995-10422 A	19950429
			<--	

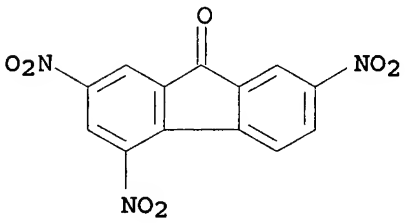
AB The method develops a uniform d. of the screen structure material on a faceplate for a CRT. According to the present invention the method comprises the steps of coating the faceplate with a volatilizable conductive layer, coating the conductive layer with a first photoconductive layer including a **dye** sensitive to UV rays, coating the UV-photoconductive layer with a second photoconductive layer including a **dye** sensitive to visible light, charging the whole area of the second

photoconductive layer by exposing the whole surface of the second photoconductive layer to visible light while applying a suitable d.c. voltage between the conductive layer and the second photoconductive layer, exposing selected areas of the first photoconductive layer to UV rays through a shadow mask to discharge the charge from the selected areas of the first photoconductive layer, developing with light-absorptive particles, and fixing by a vapor swelling method.

IT **129-79-3**
(cathode-ray tube **luminescent** screen manufacture using electrophotog. materials containing)

RN 129-79-3 HCAPLUS

CN 9H-Fluoren-9-one, 2,4,7-trinitro- (9CI) (CA INDEX NAME)



IC ICM H01J009-227
ICS G03G005-02; H01J009-14

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **129-79-3** 50674-60-7, Ethylanthraquinone 185160-21-8
(cathode-ray tube **luminescent** screen manufacture using electrophotog. materials containing)

L37 ANSWER 43 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1994:581921 HCAPLUS

DOCUMENT NUMBER: 121:181921

TITLE: Synthesis and photophysical properties of fluorescent 2-aryl-1,3-dialkylbenzimidazolium ions and a 1-alkyl-2-arylbenzimidazole with excited state intramolecular proton-transfer

AUTHOR(S): Kauffman, Joel M.; Khalaj, Ali; Litak, Peter T.; Novinski, John A.; Bajwa, Gurdip S.

CORPORATE SOURCE: Department of Chemistry, Philadelphia College of Pharmacy and Science, Philadelphia, PA, 19104-5595, USA

SOURCE: Journal of Heterocyclic Chemistry (**1994**), 31(4), 957-65
CODEN: JHTCAD; ISSN: 0022-152X

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 121:181921

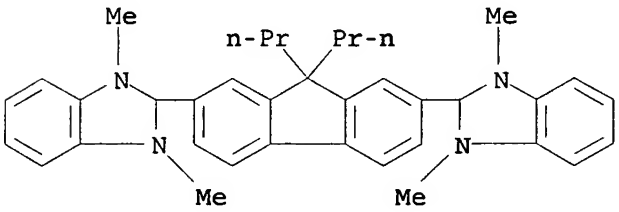
AB To improve the solubility, photostability and fluorescence quantum yield (Φ) of 2-arylbenzimidazolium ions the N-1 hydrogen was replaced by an alkyl group before N-3 was quaternized; this substitution did not reduce Φ, proving the absence of steric inhibition to attainment of coplanarity in the excited state. A related sym. 2,2'-arylenebis(1,3-dimethyldibenzimidazolium ion) had Φ = 0.86. The related 2,5-bis(1-methyl-2-benzimidazolyl)phenol had Φ = 0.38 at 22° as well as a very large Stokes' shift due to proton transfer. These findings

supported a new insight into the electron distribution of the first excited singlet state of oligophenylenes. The compds. were of interest as laser dyes and scintillation fluors.

IT **157771-51-2P**
(preparation and fluorescence quantum yield of)
RN 157771-51-2 HCAPLUS
CN 1H-Benzimidazolium, 2,2'-(9,9-dipropyl-9H-fluorene-2,7-diyl)bis[1,3-dimethyl-, dimethanesulfonate (9CI) (CA INDEX NAME)

CM 1

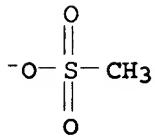
CRN 157771-50-1
CMF C37 H40 N4



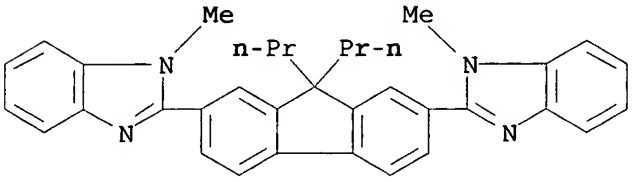
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16053-58-0
CMF C H3 O3 S



IT **157771-54-5P**
(preparation and quaternization of)
RN 157771-54-5 HCAPLUS
CN 1H-Benzimidazole, 2,2'-(9,9-dipropyl-9H-fluorene-2,7-diyl)bis[1-methyl- (9CI) (CA INDEX NAME)



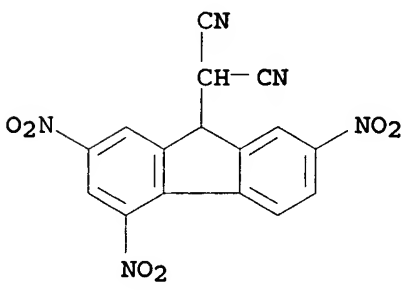
CC 41-5 (**Dyes**, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
IT 157122-31-1P 157771-47-6P 157771-49-8P **157771-51-2P**
(preparation and fluorescence quantum yield of)
IT 157771-46-5P 157771-53-4P **157771-54-5P**
(preparation and quaternization of)

IT 157771-45-4P
(preparation of **luminescent**)

L37 ANSWER 44 OF 44 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1984:27708 HCAPLUS
DOCUMENT NUMBER: 100:27708
TITLE: On the problem of the peripheral mechanism of catalytic hydrogenation of aromatic nitrocompounds. Identification of molecular complexes of alizarine and its chelate with palladium(II) by electron emission spectroscopy
AUTHOR(S): Bulatov, A. V.; Khidekel, M. L.; Egorochkin, A. N.; Panicheva, M. V.; Sennikov, P. G.
CORPORATE SOURCE: Inst. Chem. Phys., Chernogolovka, USSR
SOURCE: Transition Metal Chemistry (Dordrecht, Netherlands) (**1983**), 8(5), 289-92
CODEN: TMCHDN; ISSN: 0340-4285
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The method of static quenching of 1st order luminescence (T = 77 K, matrix = CH2Cl2 or 2:4:1 EtOH:Et2O:C5H12) was used to study complex formation in a 2-component system involving an alizarine (Q) derivative (PPh4)Q, (PPh4)2[PhQ2], (NBu4)Q, (NBu4)[PdQ2] electron donor, and a nitro- or cyano-containing electron acceptor: m-dinitrobenzene, 1,3,5-trinitrobenzene, 9-dicyanomethylene-2,4,7-trinitrofluorenone, tetracyanoethylene, and TCNQ. The quenching consts. (Kq) and the electron affinity (Ea) of the electron acceptors change systematically. The lnKq-Ea correlation was used to analyze the stability of the donor-acceptor complexes studied and the interrelation between different mechanisms for the quenching of the donors' luminescence. The data obtained are interpreted in terms of the peripheral mechanism of catalytic action for complexes of Pt metals with **dyes** in the hydrogenation of aromatic nitro compds.
IT **88182-55-2 88182-56-3**
(**luminescence** quenching consts. for, catalytic activity in relation to)
RN 88182-55-2 HCAPLUS
CN Phosphonium, tetraphenyl-, salt with 1,2-dihydroxy-9,10-anthracenedione, compd. with (2,4,7-trinitro-9H-fluoren-9-yl)propanedinitrile (1:1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 88182-54-1
CMF C16 H7 N5 O6

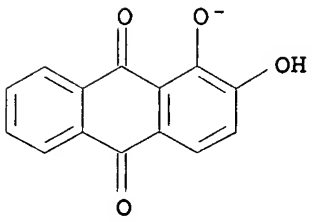


CM 2

CRN 88162-21-4
CMF C24 H20 P . C14 H7 O4

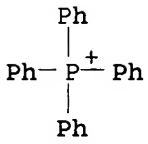
CM 3

CRN 88162-20-3
CMF C14 H7 O4



CM 4

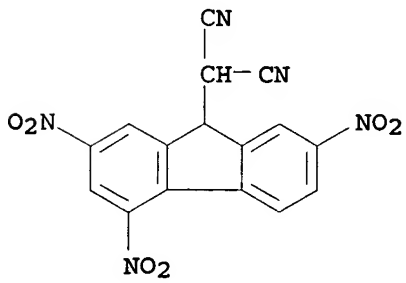
CRN 18198-39-5
CMF C24 H20 P



RN 88182-56-3 HCAPLUS
CN 1-Butanaminium, N,N,N-tributyl-, salt with 1,2-dihydroxy-9,10-anthracenedione, compd. with (2,4,7-trinitro-9H-fluoren-9-yl)propanedinitrile (1:1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 88182-54-1
CMF C16 H7 N5 O6

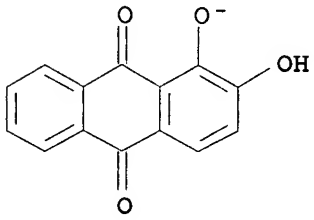


CM 2

CRN 88162-24-7
CMF C16 H36 N . C14 H7 O4

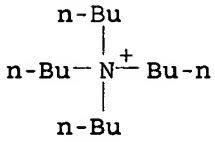
CM 3

CRN 88162-20-3
CMF C14 H7 O4



CM 4

CRN 10549-76-5
CMF C16 H36 N



CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 22

IT 88162-22-5 88162-23-6 88162-25-8 88162-26-9 88162-27-0
88182-55-2 88182-56-3 88182-57-4 88266-14-2
88266-16-4 88266-17-5 88266-18-6 88266-19-7 88279-69-0
88279-70-3 88279-71-4
(**luminescence** quenching consts. for, catalytic activity in relation to)